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ORIGINAL ARTICLES.

THE ORGAN OF CORTI.

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THE following are the closing words of our last article: What possible connection can there be between the semicircular canals of the labyrinth of the ear and the cells, columns and nerves of the spinal cord that control and direct taxic movements, that their pathological changes should, in so many respects, simulate and resemble each other? We believe that the solution of this question, if it be capable of solution, can only be found in the deep deposits of the brain whence proceed the auditory nerves. There must be some continuity of nerve association beginning in these deposits, and the effect of a stimulating morbid cause, originating in the semicircular canals, is conveyed through the unbroken chain of nerve association in corona radiata, association fibres and all the innumerable host of nerve strands and strata radiating and penetrating everywhere. This alone, as it seems to us, can account for the morbid phenomena under consideration, and by which their possible solution may be found. For our part, as respects the normal functional use of the canals, we venture the suggestion that the length of each canal, its tortuosity, the relative angularity of each to the vestibule, and to the sacs, the enlargements of the ampullæ, the soft and yielding endothelium, bathed in its unctuous endolymph, each and all may serve to neutralize any injurious impressions that may be generated by violent sonorous impact, by causing the sound to expend its force as it traverses the canals, each one absorbing a portion of it, until it is finally lost in their devious windings and turnings. Now with our reader's permission, we will try and see if we can trace any such associations of primordial cell deposits, of ganglionic, cerebral, cerebrocortical and cerebellar continuity with medulla oblongata and spinal cord as can help us to a connection between the ataxic phenomena produced by disease or injury of the semicircular canals of the labyrinth, constituting what we have ventured to call audito-locomotor ataxia, and the motor irregularities and uncertainties of true locomotor ataxia. Of course, to do anything like justice to this complex subject, involving as it does the close and profound scrutiny of the hidden localities of the cerebro-spinal axis, would of itself constitute a volume, and be out of place here and now. This may be the subject of consideration in future investigations, which we propose to make of nervous matter in various parts of the nervous domain, but which have no legitimate belonging just here. All we can hope to do at present, is to look for the links in the chain that holds these ataxic manifestations together, and that vibrates responsively whenever stricken by discordant and disturbing causes. Let us see what we can gather from recent authority upon this subject. In looking for the cerebral and other associations of the auditory nerves, we would naturally seek for and expect to find their sources of origin among the cerebral and other localities that are animated by a specific and intense vitality. The sense of audition owes its intrinsic and exquisite perceptions to the elementary organic material that enters into and moulds the substance of which the auditory nerves are composed. Our readers will remember that in describing the branches of the auditory nerves that supply the vestibule and semicircular canals, we hazarded the opinion that these nerves were composite in their elementary structure; in other words, that they were not homogeneous, but of mixed or adulterated physical composition, and therefore not all susceptible of the same purity and refinement in their physiological perceptions and contributions to the auditory sense. If we apprehend this feature of their history correctly, and if they be capable of diverse transmission of power because of such differences in their molecular construction, then we may be sure that their foci of origin present equal differences in the organic nature of the elements they contribute to the physical composition of the nerves, and hence also, marked differences in the character of the physiological potentiality which they bestow. The very simplest analysis of any one of the special senses, and of the nerves that constitute and make of it a special sense, must endow it with nervous matter of a refined and subtile force, and the more acute and appreciative the perceptions of a sense the more must the nervous matter that ministers to its functional properties be intensely vivid and vital in its intrinsic organic nature. Not only must the organic nervous material possess these properties, but we must not lose sight for a moment of that most important radical principle inhering in all nervous matter; viz., its collateral associations. One single thought interjected here will make our meaning plain. What is it that makes the perfection of a special sense? Let us take, for example, the sense of vision. Is it the mere fact of seeing, the mere visual sense itself, that makes us rejoice in the ability to see? Can the puncta luminosa of the

retinal rods and cones receive, each its own individual luminous rayon of affinity, and by fixing it upon the living canvas of the retina, give us the blessing of vision and all that it brings with it? Blind Bartimeus said to the Saviour:

"O give me light,
Rabbi, restore the blind man's sight."

But what came with the light? Was it merely the visual sense? No! A dark veil had not only shut out the light, and blotted out vision, but had hung its impenetrable obscurity across the field of mental vision too. There had been a severance of the mysterious chain that bound eye, cortex, ganglia, and all the other co-operative instrumentalities that unite in one harmonious whole, the physical, mental, moral and emotional man as he pled with the "Anointed Healer." Links were wanting to make up mental and visual unity and consentaneity—once again repaired and the blind man *saw with eye and brain*, and nature and her beauty once again entered and sat down in the long desolate places of the mind, where all had been dark and where light was not! So is it between auditory sense and brain cortex. It is not the mere auditory sense that gives us our world of the auditory comforts and pleasures that we enjoy. The deaf man may hug himself that the beneficence of the universal law of compensation still keeps him in possession of his mental faculties unscathed and unimpaired, and in the full acuteness of perception of the senses that still remain to him, but from the delights of social intercourse, from the sweet voices of nature, and "music's soft pleasings," he is a sad and lonely outcast. It's a heavy and wearing ordeal for affection that has to yell and scream its sympathies into an ear-trumpet, and involves much vocal strain, to say nothing of the "damnable iteration" of having to repeat. With all these affinities between the auditory sense and the mental, moral, emotional, and as we shall presently see, physical powers within us, we must look deep for the source from which this special sense draws its nutriment, and for the "fons et origo" of hearing. Let us now consult some of the most recent and reliable authorities upon the anatomy of the brain and of its intimate structure. In no department of scientific research are there greater evidences of patient and unwearied investigation than in the efforts that are being made to unfold and bring to light hitherto obscure and unknown cerebral, cerebellar and other localities, and the many objects of interest and importance occupying those localities. Were it consistent with the purposes of our present investigations, it would indeed be a labor of love to follow in the footsteps of the critical and indefatigable toilers in this vast domain of scientific inquiry. But the task we had set before us is now nearly, though most imperfectly finished, and we must, with reluctance, content ourselves with just so much of the study of the interior structure of the brain as may serve for the further elucidation of our present subject matter.

Of all the workers in brain localization, there are none more painstaking, conscientious and thorough than the German anatomists and physiologists. We shall therefore take our inspiration from their most modern contributions in this direction, and hope to find sufficient material with which to complete the structure we have essayed to erect, and to make acceptable to our readers what yet remains of auditory illustration. The simple enumeration of the associations, both direct and indirect, of the acoustic nerves with many localities of the cerebrum, cerebellum, pons varolii, ganglia cerebri and medulla oblongata, and their initial origin from cells and ganglionic nuclei in those various localities, as also their connections, by means of the fibres of the corona radiata and association fibres, whereby they are brought into close relationship and sympathy with the universally acknowledged potential factor of the mind, the cortex cerebri, and all that that implies. These we say, assist in perfecting, not only the auditory sense itself, but in perpetually maintaining consentaneity of sensation and perception with the mental, moral and emotional powers within us through the innumerable emotions and sympathies which it is capable of evoking. A sound from without strikes upon the ear, and at the moment of impact, its quality, the cause that produced it, and of which it is the representative, its capacity for stimulating mental movements and emotions, whether pleasurable or otherwise, are all, with the rapidity of thought itself, conveyed through the intricate mazes and avenues of acoustic striæ and strands, until every auditory instrument and agency, whether in cerebrum, cerebellum, medulla oblongata and pons, and every ganglion and cell nucleus that has contributed to the auditory sense, is at once set in responsive agitation, and it is carried through all these instrumentalities to the sensorium commune, where it is duly weighed and measured in the unerring scale of instinct, intelligence, reason and the other qualities of perception and discrimination that make up what we call mind. According to the most modern and enlightened views of the sources from which the acoustic sense proceeds, they may be briefly enumerated as follows: The acoustic nerves originate from, (1) The gray substance of the floor of the hind-brain—Hinterhirn—and the after brain—Nachhirn. (2) The cerebellum—Kleinhirn.—(3) The posterior Corpora—Quadrigemina.—(4) Pons varolii—Brücke.—(5) A ventral nucleus between the cerbellum and corpora restiformia—Forel, Onufromicks and Baginski.—(6) The tuberculum acusticum, on the outer surface of the medulla oblongata. (7) Association of acoustic with the nuclei that govern the movements of the eye, hence the judgment of space measurements. (8) Cerebral source of acoustic in the temporal lobe of cerebrum. (9) Association of acoustic with cortex and ganglia by corona radiata and association fibres. (10) The ventral and dorsal or anterior and posterior roots of acoustic, that simulate the anterior and posterior roots of the spinal nerves, a

fact that helps to account for the irregular movements of audito-motor ataxia in Mèniere's disease.

In as limited a space as possible we have endeavored to give the various sources of origin and association of the nerves of hearing, and they are fruitful of suggestion of many objects of most interesting inquiry and speculation as to the reason why the acoustic nerves are so widely, variously and intimately associated. No doubt every one of these associations—if its story could be told—is pregnant with mysterious meaning. No doubt every possible tone that vibrates in the outer air has its home of welcome acceptance and hospitable entertainment in one or the other of these sonorous habitations—if we may venture thus to designate them—deep hidden in the recesses of the marvellous instrument of human thought and intelligence. We all know what Hamlet said to Horatio, and of the "many things in heaven and earth" that are not "dreamt of in our philosophy," we reckon some among the secret places where dwells the mind, and whence flow the perennial founts whose waters sparkle in the light of thought that makes one brotherhood of all the world. Our reader will remember that in discussing the semicircular canals, we proposed to investigate some of the morbid phenomena produced by the disease to which they are subject, and to which we have adverted—Mèniere's disease—and to try to find out, if we could, why the ataxic movements of the body seen in that disease—to which we ventured to give the name audito-motor ataxia, seemed so closely to resemble the disordered movements of true locomotor ataxia, produced, as we all know now, by sclerosis of certain of the columns of the spinal cord. We also proposed to defer the consideration of the subject until we had explored the sources of origin of the auditory nerves in the brain and its connections. But it has since been suggested by one of the editors of this journal to make this the subject of special inquiry in a future independent article. So we now pass on in company with the auditory nerve, at whose birth we have just assisted, to its ultimate destination in the labyrinth of the internal ear, and that portion of it, the cochlea, in which we shall find the true instrument of hearing, the organ of Corti.

Now we reach the true habitat, the real home of audition, the cochlea. All that is necessary for the comprehension of true audition may be found in what is called the "organ of Corti," an anatomical description of which we have already given. A very brief recapitulation of this structure will enable our reader to accept or not, as he pleases, our effort to solve the intricacies of cochlear audition. The cochlea and its organ of Corti constitute the third member of our auditory trinity, and like the same member of the olfactory, to which we gave the name of emotional, because of its association with the great ganglionic or sympathetic powers that hold such sway and potency in our inner emotional lives, so shall we find here *that* refined and exquisite auditory power that lifts us beyond the things of secular life, when we come under its magic influence. In as few words as possible then we again repeat the component parts of Corti's organ, whose functional operations perfect the sense of audition. We quote from what we have already written. The name, "organ of Corti," has been given to a series of pillars or columns or rods and estimated by Corti to be twelve thousand in number. Beginning at the base of the cochlea and extending to its apex, there are two rows of pillars or columns or rods, called the pillars or columns or rods of Corti. There is an external row, and an internal row, the former the longer, and of more delicate structure than the latter, both increasing progressively in length from base to apex of the cochlea, the outer rods becoming ultimately twice as long at the apex. They are arranged like the strings of a harp, the base of each rod resting upon the basilar membrane, while their upper extremities are united and held together by a common membrane, the "membrana tectoria." Thus a series of arches is completed, with an interval between the rods We here repeat again, *with great emphasis*, what we have written before, and it is this: *At the base of each pillar or rod is a nucleated cell. To this fact, we wish to call especial attention, as upon it hangs whatever of truth there may be in the theory we propose to offer, as to the part played by the organ of Corti in this department of the special sense of audition. Besides the rods, there are rows of hair cells arranged in several rows, from which proceed hairs or ciliæ, and they are in close relations with the rods, another notable fact, to which reference will be made again when we consider the connections of the auditory filaments with the rods of Corti's organ. According to Hensen and Waldeger, the ciliæ are twenty thousand in number. Lastly, all of this auditory apparatus is bathed in Breschet's endolymph from base to apex of the cochlea, still another notable fact for future consideration.*

The mechanical, or physical instruments or agencies employed in cochlear audition then are: First.—A series of pillars, columns or rods of different lengths and sizes, and arranged in two rows, external and internal, and twelve thousand in number, their bases and upper extremities held firmly in place, *with a nucleated cell in the base of each rod.* Second.—Rows of hair cells, twenty thousand in number—Hensen and Waldeger—their ciliæ in close relation with the rods. Third.—Auditory filaments, whose connections with rods and ciliæ are, according to the books unknown. Fourth.—The endolymph of Breschet. The above represent the mechanical agencies of audition with which we now have to deal. Let us examine each separately, beginning with the rods. According to the authority the rods are said to be "homogeneous and of the consistence of cartilage." This is virtually an acknowledgement of entire ignorance of the real organic nature of the material of which the rods are composed. So we must either submit to

authority and abandon all effort to discover what that organic nature is, or we must venture a hypothetical possibility, subject it to reason, to analogy, to argument. and to the logic of utility and adaptation of means to end. What can we suppose to be the utility, or necessity for the existence of, say one of Corti's rods, and what is its functional *modus operandi*, or better still, before inquiring into functional attributes, of what does a rod of Corti's organ consist? Is it osseous, is it ligamentous, is it tendinous or cartilaginous? Is it muscular, and if so, of what kind is its muscular structure—voluntary or involuntary? Is it nervous, and if so, of what nature is its nervous structure, of the gross and ordinary variety of nerve-fibre, or of more delicate and sensitive material gray matter, or of still more delicate, sensitive and refined compound elements, viz.: ganglionic or sympathetic, and made of the subtile substantia gelatinosa? Now we're getting into deep waters, and we must sink or swim, inexorably. If we do not choose one or the other of the above enumerated elements, down we go to the bottom, without hope of resuscitation. And now for the logic of reason and utility and of the adaptation of means to end. A rod of Corti's organ cannot by any possible analogy be osseous. The ossicles of the pons ossicularis are the only representatives of bone in the whole auditory apparatus, and their adaptation to their functional requirements are manifest, so we'll dismiss this idea at once. That a rod may be cartilaginous, tendinous, ligamentous or fibrous is conceivable. Now of the muscular. Can a rod be muscular, voluntary or involuntary, or lastly can it consist of the nervous variety? We said a little above that we had a theory to propose about the operations of these rods. It is this, and we give it for what it's worth. The rods are arranged like the strings of a harp, and they are twelve thousand in number. We know that the arrangement of the strings of the harp consists of a series of strings or cords differing in size, length and thickness from one end of the instrument to the other, and each one capable of giving out tones of a certain quality, according to their tension or relaxation, hence the musical terms treble and bass. Exactly so do the rods of Corti differ from each other, from one end of the cochlea to the other, or from base to apex. We know too that in the harp every string at a certain point of tension emits a certain timbre, or pitch, or quality of tone, and that by increasing or decreasing the amount of tension of the string, it can be made to give out tones of an entirely different timbre, or pitch or quality; our analogy then is just here. A rod of Corti is susceptible in our belief of various conditions of relaxation and tension. Why? Because in order that it may be adapted or adapt itself, by reason of the powers of its own intrinsic agencies, to receive and appropriate a sonorous impression of a certain quality of tone, it must be placed in a certain condition of tension or relaxation to receive that quality of tone with which it is in sonorous affinity. Do we recall any analogy to this in our previous investigations? How was it with the rods and cones and puncta luminosa of the retina? Did we not insist upon the individualities of chromatic affinity? Did we not give to each rod and cone, and punctum luminosum, its own specific rayon of light, and to each optic nerve fibrilla in association with each rod and cone, the co-operative duty of the transmission of its freight of light to brain recess and cortex? If there's a grain of truth in our theory, then we have established the property of alternate tension and relaxation as the functional attribute of each one of the twelve thousand pillars, or columns or rods of Corti's organ. Another point; as the rods differ from each other in size, length and thickness, so, like the harp strings, each is responsively resonant with its own individual and specific quality of tone, *and with no other!* Here we reach, as we have before expressed it, the pith and kernel of our argument, and it requires no small amount of courage to encounter the question that looms up before us, but we'll risk it. What power is it that effects the tension and relaxation of anyone of Corti's rods? What means that curious little cell snugly embedded in the base of each rod? There it is in everyone of them, and it's there for a purpose; what is that purpose? Wherever a cell is there is life surely, and the more that cell is endowed with the subtle organic principle of substantia gelatinosa, the more intense is its vitality! This is as inflexible as truth itself. If it be endowed with this organic principle, what are its affinities, where are its belongings, to what character of nerve-force does it owe allegiance? There can be but one answer to this, and doubtless our reader already anticipates it. That overruling power that holds such potential sway over our every heart-beat, every breath we draw; that compels functional activity, energy and unintermitting regularity in the performance of duty of every organ that helps to maintain animal life, and stays the processes of disintegration and decay. That same power plays upon the gamut of the twelve thousand strings of the auditory harp, and every sweet tone born of music is made to echo in our being in responsive thankfulness to its touch. Each cell then compels tension and relaxation of its own rod. Does this mean that the nervous matter of the cell is the first to receive the sonorous impression, and that the rod contracts or relaxes obediently to the cell stimulus? Do we know of any analogous cell or ganglionic power? We'll take the first that occurs to us, which though not of so refined a character, and of very different functional operation—that of secretion—is still just as illustrative. Why do the salivary glands make our "mouths water" at even the thought, much less the sight of luscious fruit? The nervous force is just the same, and part of the same whole. Tears are making a rivulet down a human face. What is it? Oh! only the sight of these old familiar scenes once again, or

the fragrance of this tiny little flower, or the tones of that old song, so full of the memories of the almost forgotten past! What does all this mean? It means the forces that live in gray nervous matter, in ganglionic cells, in substantia gelatinosa, in striæ and strands and strata of nervous matter, sending and carrying their messages from one end of our organic life to the other, and holding us passive and submissive to its power, however we may struggle and resist. But we must make an election of the structure of the rod, and as it is certainly not osseous, it must be of some elastic material, and capable of tension or the opposite. Which shall we choose of the number we have named; we'll make our choice, and the material of the rod will not be cartilaginous, fibrous, tendinous or ligamentous; then all that remains to choose from is either that it shall be nervous in some form, or muscular? Our inclination is to the form of involuntary muscular fibre as the integral element of Corti's rod. Why? One of the most remarkable evidences of the subtile power of the great sympathetic system is the control it exercises over involuntary muscular fibre, wherever it exists in the body. The necessities of the functional activity of every organ that has involuntary muscular power as part of its organization, demand that its influences shall go on independently of all voluntary control. That little cell then in the base of each rod is a link in the great sympathetic chain, and it performs its part by compelling the tension and relaxation of involuntary muscular fibre of its own rod and keeps it on the alert, and obedient to every sound that may find its way and impinge upon it by reason of its sonorous affinity. Another reason why we select involuntary muscular fibre for the rod, is that its tension has to be communicated to a nerve force, a fibrilla of the auditory nerve. The tensor tympani muscle does the same thing, though in a different way. It causes the tension of the outer drum, and the impression from without is conveyed to the vestibule, and the nerve forces therein. So we see that the analogy holds good even there. This we believe to be the true solution of the function of Corti's rods. The next difficulties that confront us are the hair-like processes, the fila acustica—and the auditory fibrillæ. We offer the following solution of these auditory agencies as they seem to us. The hair-like processes or ciliæ, are as anatomy teaches us, closely connected with the rods, and being endowed with the peculiar sensitiveness that appertains to ciliæ everywhere, here especially, so they receive the tensive impressions from the rods—call these impressions sonorous if you like—what else can they be, and convey them though the medium of Breschet's endolymph to the exquisitely sensitive auditory fibrillæ that are either in direct contract with them or floating in the same limpid fluid, and receiving every impulse of its undulation. There are no otoliths, no otoconia in the organs that constitute the third member of our trinity—the cochlea, and the reason seems to us manifest. The otoliths of the vestibule are in that department of audition where coarse, harsh and resonant sounds are received, and we have endeavored to explain why these earstones should be there—the cochlea is the home of gentle and delicate sonorous impressions; Corti's rods are their recipient, and they are not permitted to visit them too rudely. We speak of "straining the ear" to catch a distant sound, also of "straining the eye" to see a distant object. In the latter we have cited the influence of the opthalmic ganglion and its ciliary nerves upon the ciliary muscle, whereby the transparent humors of the eye are compressed, and the axis of the globe focally altered and adapted to distinguish the object in the remote distance. Why should not the tensive capabilities of the rods of Corti be utilized too to bring the distant sound within auditory compass and appreciative susceptibility? And now we would say to the reader who has kindly accompanied us to this, the end of our appointed task,—we hope there are many, of some we are sure from their letters, etc., of approval received. To all we would extend thanks for their indulgence to the incomplete and inadequate—how incomplete and inadequate, none can feel or know better than we—presentation of the vast subject that has engaged our interested thought and investigation during the year just gone. We have occupied but a little corner in the wide domain of scientific research that invites us, and it serves only to show how much yet remains unexplored of these mysterious forces within us. Nervous matter, and what it is, has been the omnipresent theme of our night vigil and morning uprising, and the end is not yet. Doubtless there are those who are sceptical and unwilling to accept many of our interpretations of the forces that inhere in nervous matter. There always have been doubting Thomases ever since the world was young, and there always will be until the world outlives its usefulness, dies, decays and dissolves. Well, be it so. We are perfectly willing to accept their scepticism and unwillingness, provided they shall have the effect of giving us something better. Until that something better is given to us, some new light to illuminate the dark and obscure places in which we have been wandering, we will hold on to what we have. So "let there be light." We await its dawning.

Our old friend, Dr. T. Griswold Comstock, of St. Louis, has recently moved into his new home, 3401 Washington Av., where he will be pleased to welcome his friends.

Dr. Comstock has just received an honorary degree of Doctor of Medicine from a Chicago college, which was worthily bestowed.

Tr. lobelia is one of the remedies which have come down to us from the Eclectics in the treatment of felon. Absorbent cotton saturated with the tincture, and applied three or four times a day over the affected part before suppuration has commenced, will relieve the intense throbbing pain and active congestion, and frequently abort the felon better than any other remedy.

MEDICAL JURISPRUDENCE.

BY DAVID A. STORER, COUNSELLOR AT LAW, NEW YORK.

ACTION FOR DAMAGES RESULTING FROM A BLOW—AN INFANT DEFENDANT.

PHILIP KOENIG and Charley Weiss, (both fourteen years old), were friends and schoolmates in the City of New York. In play, Koenig slapped at Weiss, who burst into tears and went into the school-room. He completed his day's work and went home as usual. That night he complained of being sick. The next morning he had pains in his head, and thirty-six hours later he was dead. A coroner's jury exonerated Koenig.

Henry Weiss, the father of the dead boy, sued young Koenig for $5,000 damages, in the Superior Court, (New York), before Judge Dugro and a jury. Under the principle that infants are generally liable for their own tortious acts,—(though not upon contracts), young Koenig was a proper party defendant. Action against infants so young, however, are rare. When damages are given for a tort or wrong, they become a debt, and stand as a judgment established by the court. If the infant, even while a minor, fails to pay such judgment he may be arrested and held, say for a few months, or until he prove himself a person of no estate. Such judgment will hold during the period fixed by the Statute of Limitations—and upon due action for the purpose before such period expire, be renewed for another period.

At the trial of the cause, the attendant physician testified that the boy died of meningitis; but that he had also been treated for malaria. Two of the defendant's playmates testified that they thought Koenig's hand struck Weiss.

The defendant testified that he was thirteen years of age when Weiss died. He had known Weiss three years and was one of his best friends. He said he followed Schaefer, (another schoolmate) into the school-room, after the latter had called him a "kid," and playfully struck at him. Schaefer was sitting in Weiss's lap, and while his hand struck something soft, he was not certain whether it was Schaefer's hand or Weiss's head. He struck with his open hand, and did not think he hit Weiss. Weiss made no complaint to him that afternoon about feeling bad.

Drs. Ralph Waldo and C. J. Kirchoff were called for the defence and asked:—

Q. Would a blow causing death from meningitis within thirty-six hours after its infliction, necessarily be of sufficient force to knock a boy senseless? A. It would.

Q. Do you see how young Weiss's death could have been due to meningitis, the result of Koenig's blow?

A. No sir.

Q. On the facts presented by the evidence, did Weiss die of meningitis resulting from any blow?

A. I don't believe he did.

Judge Dugro was inclined to dismiss the case. He asked plaintiff's counsel where there was any evidence to warrant the belief that the boy died from a blow. "You have proved the blow and the boy's death," he said, "but you have only shown it possible, not probable, that he died from the blow. However, I will let it go to the jury, who will settle it at once and for all."

The jury acquitted the defendant.

TESTIMONY OF PHYSICIAN—DURATION OF SUFFERING FROM INJURY.

A case involving important rulings as to the evidence of physicians, has just been decided in Common Pleas of New York, General Term, on appeal from the General Term of City Court, wherein judgment for the plaintiff had been affirmed.

Herman Schuler, a passenger on the Third Avenue Railroad, had deposited a heavy bundle on the front platform of the car, close to the dash-board, and was about to alight from the car after it had come to a full stop. He stooped to pick up the bundle, and, as he did so the driver suddenly released the brake. The brake handle was left unguarded, and its recoil caused it to come into violent contact with Schuler's head, inflicting injuries to his left eye and the super-orbital nerve. The driver knew of the bundle and that plaintiff was about to alight.

Schuler brought an action for the recovery of damages, in the City Court, and recovered judgment. The defendant corporation appealed to General Term of City Court, where the judgment was affirmed. Another appeal was taken to Common Pleas, General Term, which unanimously affirmed the judgment with costs.

The latter court, in the opinion delivered by Judge Bischoff, held:—

That the sudden relaxation of the brake could not have been reasonably foreseen, and thus avoided by the plaintiff; and the act of stooping was inevitable to his attempt to regain possession of his bundle. The circumstances attending the accident were therefore, adequate for the predication of carelessness of the driver, thus bringing the defendant within the rule that toward the plaintiff, it owed the duty of the "utmost care and diligence of every cautious person" under like circumstances, to avoid the risk of injury. And they also affirmatively established plaintiff's exemption from any imputation of contributory negligence, though he knew or ought to have known of his close proximity to the brake.

Dr. Bailey, called as a witness for the plaintiff, to prove the extent of the latter's injuries, was permitted to testify under objection and exception by the defendant's counsel, to the fact that plaintiff had expressed his physical anguish to him, long after the accident, and in fact during the progress of the trial. It is apparent, however, that these expressions related exclusively to plaintiff's condition at the time, and not to past mental or physical anguish, and were

involuntary and instinctive. Under the circumstances, the testimony was properly admitted. Such expressions on the part of the person injured, whether vocal or emotional only, are admissible in evidence if made at, or immediately after, the time the injuries were sustained, as constituting part of the *res gestæ*; and they are of necessity equally admissible when made to, or in the presence of the physician who is at the time in professional attendance upon the person injured, or called in to ascertain the probable extent of the injuries. The case cited by defendant's counsel is to the effect only that expressions of physical suffering, when not a part of the *res gestæ*, are not admissible to corroborate the person injured, if made to persons other than the attending physician or the medical examiner or surgeon, called as an expert to prove the extent of the injuries sustained. The distinction is not only reasonable, but necessary. The extent of the injuries, and the consequences which, with reasonable certainty, will attend them, are matters peculiarly within the knowledge of the medical expert. Physical as well as mental anguish of the person injured, must necessarily enter largely into the measure of those consequences, and its presence is more or less dependent upon his physical and mental strength and endurance. It may therefore not always be externally perceptible. If it is, its perceptibility is circumscribed by the degree of endurance. The injuries may be wholly organic, and therefore incapable of visible or tactile discernment. If then, expressions of existing physical or mental anguish, which instinctively or involuntarily escape the person injured, in the presence of his physician or the medical expert who is called to qualify himself as a witness to the probable extent of the injuries are to be excluded from his consideration, because anguish may be feigned or expressions mere pretence, instances of injuries which are incapable of ocular or tactile demonstration would be precluded from adequate redress.

One other objection was urged on this appeal against the validity of the judgment. Counsel for appellant contended that it was error to admit the testimony of Dr. Bailey as to the condition of the plaintiff's eye at the time of the trial, and that of plaintiff, to the effect that the pain and suffering attending his injuries had continued. The complaint alleged that for a period of three weeks subsequent to the time of the accident, plaintiff had suffered and still was suffering pain, and because of this allegation defendant's counsel objected to the introduction of the testimony on the ground "that the pleadings are confined to the injuries within the period of three weeks following the accident; also on the ground that the evidence is a surprise to the defendant." It is apparent that counsel has confounded the result with the fact of the injury. The injuries alleged in the complaint are those sustained on August 22, 1888, and these only could constitute ground for recovery in this action; but the general allegation of damage therefrom entitled plaintiff to recover not only for the pain and suffering endured up to the time of trial, but for such as yet remained to be endured.

In the case of Union Pacific Railway Co. *vs.* Jones, in error to the Circuit Court of the United States for the district of Colorado, the court takes the same view of the question under consideration.

This action was brought to recover damages for injuries alleged to have been sustained by Miss Jones, while a passenger on a train of the defendant's road, the car in which she was riding having been derailed. This action, together with two other actions brought by the mother and sister of the plaintiff, for injuries suffered in the same accident, were tried together, upon the application of defendant—although several judgments were rendered, the plaintiff and her mother each receiving $3,000 and her sister $500.

The error mainly insisted upon by the Railway Co. on appeal, was the consolidation of the three causes. With this branch of the case we have nothing to do, as it is a purely legal one. But the next error alleged is within the department of medical jurisprudence. The defendant company complained that under the evidence in the case the jury should not have been allowed to consider the future suffering of the plaintiff as an element of damage.

The accident happened on September 4, 1890, and the trial was begun May 26, 1891, and the evidence showed that at the time of the trial the plaintiff was still suffering to some extent from the injuries received; that the probabilities were that she would ultimately recover, but no testimony was introduced directly upon the point of time when complete recovery might be expected. In the charge to the jury, the trial court very clearly limited the right of recovery to such disabilities or injuries as were proven to be real, complete and entire;—and thereupon, the bill of exceptions shows that the following proceedings took place:

"Plaintiff's Counsel: I noticed the court directs the attention of the jury to the fact of the disabilities, but said nothing of their sufferings. I apprehend these parties are entitled to compensation for suffering.

"The Court: Yes, suffering, it is true, is a proper element for compensation.

"Defendant's Counsel: That cannot go beyond the present time under this evidence. They cannot allow on account of the future suffering.

"The Court: I am not able to say that, gentlemen. It was said that these ladies would recover; the time in which they may recover was not stated; physicians expressed no opinion upon that. Probably they ought to have been asked by counsel their opinion upon that subject, but that was not done; and in the absence of such testimony, you are at liberty to go upon your own judgment in respect to that matter. The plaintiffs can have no right of action hereafter for any

part of this disability, and you can include in your verdict the disability which may continue from this time onward, in so far as you may believe it may continue, if you find for them."

To this instruction to the jury, exception was taken, and it was argued before the appellate court that it was error to permit the jury to determine whether there was a probability of future disability or suffering, and award damages therefor.

The U. S. Circuit Court in affirming the judgment below (opinion by Judge Shiras), held:—

That the evidence showed that the disabilities caused by the accident had lasted up to the date of the trial; and, still existing, it was the necessary inference that they would continue with the attendant suffering for some time in the future; and for such future disability and suffering the plaintiff is entitled to recover. The objection made by the defendant is that it was incumbent upon the plaintiff to have introduced evidence proving the length of time the disability and sufering would continue.

That if by this is meant that the plaintiff was bound to submit in evidence the opinions of physicians upon this point, and that the jury would be bound to accept such opinions, the court cannot agree to the proposition. It would have been entirely proper for either or both parties to have introduced such expert testimony upon this point, but it was not done, and therefore the jury was rightly intructed that they must consider this matter of future disability and decide it to the best of their judgment, which was the equivalent of saying that they had before them no expert opinions and must therefore decide it upon such facts as were in evidence.

That there was some evidence bearing upon the question before the jury, such as the nature of the injuries received, their effect upon the physical condition of the plaintiff and the length of time that the disabilities had already continued, and upon due consideration of these facts, it was the duty of the jury to determine whether there was a reasonable certainty of future disability and suffering, and if so, to award compensation therefor. No expert testimony could have shown just how long such disability would exist in the future, as the matter is one beyond absolute knowledge, and therefore experts could only have given their opinion based upon the facts appearing in evidence, and while such opinions might have aided the jury in reaching a conclusion upon the question, yet they were not indispensible to its consideration and determination by the jury.

It will be observed that the Federal Court has taken even a broader view of the subject than did the State Court in the case first considered.

Dr. Geo. Taylor Stewart, Chief of Staff, reports 887 patients treated at the W. I. Hospital during April, with a death rate of 3.49 per cent. For the four months ending April 30th, 2,199 patients were treated, with a death rate of 6.44 per cent.

"THE MONISM OF MAN; OR THE UNITY OF DIVINE AND HUMAN AGENCY."*

WE have been favored with the perusal of the advance sheets of Dr. D. A. Gorton's volume, printed in the excellent typography of the "Knickerbocker Press," and are enabled thereby to give the readers of the MEDICAL TIMES some idea of its contents in advance of its publication.

This work is an important contribution to the philosophical literature of the nineteenth century, but its views will, no doubt, be more widely endorsed in the twentieth, even though we have approached *le fin du siècle*. It treats of the philosophy of life, of living phenomena in all its aspects, embracing both the organic and inorganic forms of nature, the physical and psychial, showing the perfect unity that exists between them, —the harmonies ascending from the lowest to the highest.

In the investigation of natural phenomena we have our choice of two methods—the deductive and the inductive, neither of which singly seems quite satisfying in its results when applied to the problems of life and mind. The Idealist, or Spiritist, believing intuition to be primary, and observation secondary, conceives mind or soul to be immaterial in its nature, having an existence entirely separate from matter, and using the body only as the means to manifest itself. Though dependent on the body for manifestation, it is never affected by its physical conditions, being endowed with the power of complete self-government, and is alone responsible for its actions.

The Realist or Materialist, on the contrary, believes that will or mind is the result of man's congenital constitution, modified by early associations and subsequent environment. He regards all mental phenomena as determined by the ordinary laws of physical causation, the will being the preponderance of motives, such motives being influenced by his physical mechanism and environment.

Neither of these propositions seems satisfying to the aspiring intelligence—to the earnest truth seeker. There is a baffling sense of incompleteness in both. In the light of modern discoveries in physiology, pathology, physics and chemistry, it can no longer be doubted that the mind or will is dependent on physical conditions, nor that a diseased brain is incapable of normal thought; and yet one is loth to believe that the frail and perishable body, living in the midst of death, is the beginning and end of individual life; that the "losses and crosses" are forever to overbalance the fleeting moments of perfect joy which are so few and precious. The aspirations of the soul for the Infinite, the sacrifice of earthly joys for heavenly ones, the immolation of one's self on the altar of sacrifice, are they simply the effect of an idea? The performance of a good deed for the

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* By DAVID ALLYN GORTON, M. D. 12mo., pp. 300. Geo. P. Putnam's Sons: New York and London, 1893.

sake of a reward robs that deed of its chief virtue, but in the execution of a righteous impulse, who is thinking of a future recompense? The human virtues are a faint reflection of the Divine virtues; the human soul is a part of the Divine Soul, and its aspirations toward the Infinite, so universally displayed, are in response to the compelling force of the Universal Soul—such as mutual attraction existing between like objects. As the seed falls to its mother-earth by the attraction of gravitation that it may live again, so may the soul be drawn back to the Beginning and End of all things by an analogous force.

This subject is one of perennial interest—a subject as old as human thought, yet ever new, thrilling and pulsating with that spirit which leads to every new discovery, prompts every invention, and is the inspiration and evolution of civilization, or the perfecting of mankind.

In the volume we have under consideration, "The Monism of Man, or the Unity of Divine and Human Agency," the author, who has reflected long and deeply on the problem of the relation of soul and body, force and matter, and whose evident cast of mind eminently fits him to deal with the subject, brings to its solution the powers of a logical mind and ripe scholarship. As the author is a frequent contributor to the pages of the MEDICAL TIMES, his views are, no doubt, more or less familiar to many of its readers; but no one can comprehend the scope as well as the unity and beauty of these various essays, which form parts of one complete whole, until he follows the author from the elaborate statement of his proposition—that as "man is a physiological unit, both body and soul; one and inseperable;" "function could not exist without structure; force without matter; thought without nerve substance; the physical without the psychical;" and "force and matter are essentially identical, form and substance being their externality"—to his legitimate conclusion, namely, that man is himself a part of the Creator; "his life is a finite expression of the Infinite Life; he and his Father are one: . . . he lives in an ocean of influences, not less Divine because physical and human, which he inspires with every breath and inhales through every pore. He feels the pulse of the Infinite Heart in every beat of his own, and is warmed, cheered, enlivened and sustained by all those mysterious influences of mind and matter which constitute the infinity of being around him."

The belief in the dual nature of soul and body may be traced back to the time when men first began to reason on cause and effect. Man then conceived all natural phenomena to be ordered for his convenience, and that all things had been created for his benefit in obedience to the Divine fiat. Regarding himself as the crowning effort of creation, he believed that the sun shone to afford him light and heat, and that trees grew and bore fruit in their season that he might be fed; in brief, that God had created all things for man's use and enjoyment, and that man himself was made to glorify his Creator. He conceived mind, spirit, or force to be the dominating power in nature, something that was before, above and beyond matter—the spirit of God that breathed upon the waters in the Beginning.

"The endeavor to comprehend the universe was an inspiration of the intellect, and in the absence of knowledge or co-ordinated facts to build upon, it was natural that this faculty should construct a universe to suit itself, not from observed data, for there were none, but from its own ideals," says the author.

Then, there arose another class of thinkers who discarded preconceived ideas, and things not proved, and insisted upon observing nature, collecting and co-ordinating facts, and by these facts endeavoring correctly to interpret phenomena. One employed the deductive system—intuition; the other the inductive—demonstration. And it is borne in upon one's mind in following the author's able presentation of his reasons for belief in the monism of soul and body, force and matter, the interdependence of each upon the other, that he employs both systems, reasoning upward from the particular until the limits of man's present knowledge is reached, then downward from the intuitive conceptions of reverent minds, (inspired from within) until the real and ideal clasp hands over the void of the unknown—not the unknowable, for who can predict the unknowable? Science may dogmatize as well as theology, and it is dogmatism, pure and simple, to insist that what we cannot see, measure, weigh and analyze, does not exist.

On reaching the Epilogue we find our conclusion verified, for the author states, in no equivocal terms, his belief in the need of the coöperation of both methods to satisfy the demands of philosophy. "Surely," he writes, "he who follows the inductive method in philosophy unaided by any other, can never hope to attain success in that direction, whether the subject be the familiar one of physics, or the more obscure and higher one of mind. He may, it is true, be able to trace a long series of connected sequences and co-existences, but every one of them will in turn be secondary to that for which he seeks; and the very root of all, the invisible but eternally operating Presence, will forever elude his sight. Can anyone by searching find out God."

The doctrine of final causes, however, is not made the subject of this volume; only the knowable or demonstrable is under discussion, though throughout the work the author displays a profound conviction that there is something both in force and matter that eludes finite intelligence, being shadowed forth only by that intuitive perception, that divine inspiration that comes from mental illumination.

The deductive system gives play to the scientific imagination of the author, a faculty that enabled Kepler to guess after twenty trials the orbit of Mars, and that inspired Galileo with the conviction that the world moves; but it is the in-

ductive philosphy upon which the superstructure of modern science rests, "which ranges in its scope all the way from the actions of the minute molecule of the material world to the highest evolution of the world, the human mind." By following its methods magnificent discoveries have been made in physics, chemistry and mechanics, in electricity, in the constantly increasing comforts of life, in the enlargement of man's understanding and of his capacity for rational enjoyment, thus bringing him "into closer relations with his fellows, leading him into more exalted regions of thought and feeling, even to the height of contemplating the 'beautiful and orderly laws by which the universe is governed.' His nature is thus awakened to the diviner harmonies of being, and he is fitted thereby to offer a truer and a more acceptable homage to the august source of life and being. No man who fully appreciates the revelations of natural science can be irreverent or irreligious. They exalt him above sordid things, and prepare him to enter upon a life of sweetness and light—here, in the life terrestrial." It is by a union of these two methods of observation, however, that "there shall arise ultimately a philosophy of nature broad enough to embrace the all of human life and of human destiny."

It is extremely interesting to trace the author's conception of the unity of soul and body, force and matter, through these fine essays. "All nature," he says, "is essentially and always a unit, one and indivisible in fact, and it is a procedure wholly gratuitous to attempt to cut her in twain." He begins his subject with describing the construction of the molecule and its strange phenomena, so strange as to inspire the most eminent physicists with awe. "The nature of the molecule is inexplicable; the mystery which enshrouds its constitution is as impenetrable as that of 'spirit' itself. The activities of the molecule—of 'gross' matter—are, in fact, as incomprehensible as fear, love, hope or hate. Nor are they less spiritual or more material than those of any of the emotions. The geometric forms of the molecule; its strong preference for, and dislike of certain other molecules; its attractions and repulsions; its strange transformations and metamorphoses under the influence of light and heat, are all impressive mysteries which transcend finite comprehension and bewilder the reflective observer. . . . To one who has broken away from the old idea of matter and force as being in open warfare, and has come to view nature as a series of harmonies ascending without hindrance to one grand consummation, matter appears altogether in a new light—impresses one with altogether different meaning." Dr. Gorton agrees with the French scientist, the late M. Papillon, that matter is, at the same time form and force, "form being force circumscribed, condensed; and force being form indefinite, diffused." He insists that mind is immanent in nature, and is not confined to the nerves and brain:

"Since matter and force are essentially one and the same," he continues, "the one made visible, and each made mutually known by the other; and since, also, the same remark may be as truly affirmed of life and certain states of matter, so likewise one may assert with equal propriety, and on grounds equally tenable, the essential identity of mind and matter—or mind and brain, which is the same thing; so is the molecule and affinity one and indivisible. According to this view, the lower nerve-tissue transforms chemical force into motion and sensation; the higher nerve-tissue, the grey substance of the cerebrum—and we believe that of the spinal marrow also—transforms the same material energy into thought and feeling. . . Every act, no less every thought, is attended with consentaneous changes in the nerve substance; and it is idle to speculate on the question as to which precedes and which follows, for one is essential to the existence of another."

The distinction between matter and force was made for convenience, because of the lack of knowledge of cause and effect, to account for phenomena not understood; so, also, is the distinction maintained now for convenience, between man physical and man psychical. The writer believes every atom of man to be impressed by his individuality, and in support of his induction, he brings the proofs established by pathology as well as by physiology. It must be a common occurrence among physicians to find the mental or moral health affected by physical disorders, as gout, indigestion, disordered liver, in adults, and worms, dentition, etc., among children, as well as illness resulting from great mental strain, from excessive grief, despair, apprehension, jealousy, anger; and they must recognize more or less fully the influence of disease on vice and crime. When this close relation, or interdependence, is properly understood by our lawgivers, the place of jails and penitentaries will be largely taken by training schools, sanitariums and hospitals, and then, perhaps, the revolting spectacle presented by the death-chair, the gallows and guillotine, will cease to excite the morbid curiosity of the weak and sensuous, and to offend the sensibilities of those who do not recognize the right of man to take what he cannot restore. Herein is opened a wide field to medical philosophers for honest endeavor in the evolution of society towards its greatest development.

The author defines disease as presenting "the obverse side of human nature, and comprehends not only bodily deformities and defects and their sequences, aches, pains and disabilities, but also abnormal molecular actions and changes of the bodily substance and tissues in every part, giving rise to nervous and cerebral disorder, and abnormal phenomena of soul, or of the psychical life. . . . The symptomatology of a sick man does, indeed, reveal his essential monism, oneness, homogeneity, mental and physical, body and soul—so unmistakably that it is difficult to reason one's self out of this conclusion by the most consummate use of word-symbols which the physiologist has yet been able to devise." Further on, he continues:

"In every instance of so-called physical disease we have a case of individual disorder—an individual sick, more or less in every part; and the more finely strung—organized—

is such an individual, the more surely does a particular sickness become a general disorder. Hahnemann recognized this fact when he observed that, 'sometimes a man, who is patient while in the enjoyment of health, becomes passionate, violent, capricious and unbearable, or impatient and despairing, while he is ill; or those most chaste and modest, often become lascivious and shameless. It is frequently the case that a sensible man becomes stupid in sickness; whereas a weak mind is rendered stronger, and a man of slow temperament acquires great presence of mind and resolution.' If there are any exceptions to this remark they will more often be found in disease of the higher nerve centres than in disease of the lower nerve centres, or bodily organs; for mania of the intellect as indicated by delusions does sometimes exist with little or no disturbance of the corporal functions; but, on the other hand, it is rarely the case that a corporal malady can exist without disturbing—sometimes in a manner most marked—the intellectual as well as the other cerebral functions.

"In all maladies we have therefore a unit—an individual to deal with, whose mechanism, at first perhaps a supposed inconsequential part of it, has become disordered, as the hand or foot, the mucuous membrane or the skin, and the being, the living, moving, thinking 'automaton' is abnormally affected by it in every part. So close is the 'sympathy' between the central and remote ganglions, so intimate is the relation of cognition and sensation; so homogeneous, in other words, are substance and being throughout the living organism, that a disorder of a part is an injury to the whole."

The author brings many illustrations in support of his argument, and shows himself thoroughly conversant with the literature of the subject, quoting the opinions of the most eminent physicists, sometimes in corroboration of his statements, but as often to question their conclusion, or to amend their inductions. Dr. Gorton's views are in many respects similar to those taken by the late George Henry Lewes, but without that writers's materialism, for the author of "The Monism of Man" possesses a quality that is often lacking in scientists; that is, he does not dogmatize, but makes use of what he calls the sixth sense, perception, which sometimes leads to truer deductions than the more arbitrary and limited sense of sight. While taking this wider view of the possibilities of human nature, for his philosophy is distinctively human, the author believes the part taken in the pleasure of existence—in fact, in all that makes life most significant—by the bodily functions, is not fully appreciated; that those things which render life a priceless boon, make heaven for man on earth, have their origin, "take their rise, receive their inspiration, from the bodily organs, chiefly in the viscera, unpoetic as is the idea! . . . A heaven in which the sympathetic system and its dependencies—the abdominal viscera—are excluded would be a dreary abode, a bore—we say it with perfect reverence—for any soul worthy of immortality. Let those deride the body and put off its crowning, therefore, whose faith is conserved thereby; but its symmetry and harmony, organic and functional, must be preserved if the kingdom of heaven is ever to be established upon earth."

There has been displayed a notable tendency toward routine plodding, in the laudable desire to be accurate; a too narrow and incomplete view has been taken of the inter-relation of soul and body by modern physiologists, who, in directing their attention to the human anatomy, have separated the parts in order to obtain a definite knowledge of function and structure, and failed to re-unite them, and therefore to comprehend the relation of the parts to the whole and their interdependence. The modern physiologist is as much given to dogmatism as was the ancient theologian, and while all admit the fact of the physiological unity of man, they persist in maintaining the distinction between body and mind, leading one to infer from the degree of functional independence accorded to the great systems of nerves, the sympathetic and cerebro-spinal, for instance, that man is a double being, vegetative and animal, possessing two separate and distinct lives, organic and psychic, conscious and unconscious.

The conception of the unity of body and soul is not new; ancient philosophers asserted the fact more than two thousand years ago, to be affirmed later by thinkers and poets. Some of the well known physicists and naturalists of the present day give it their support. "The demonstrations of science are slowly preparing the scientific mind to accept the sublime deductions of the poet philosophers respecting the unity of the material and spiritual, body and mind, and the agency of mind in nature, in those countless orders of being that take on form and substance—become visible in nature. She is in fact, revolutionizing physiology in the direction of trancendentalism."

The author holds it an error to assume that the seat of the mind is exclusively in the head, believing that though the conscious thinking faculty has its origin in the activities of the cells of the cortical grey substance, the unconscious life and sensibility are the peculiar properties of other parts of the organism; that physiological experiments afford trustworthy evidence that the spinal cord is possessed of mind and will, and executes an intelligent purpose, though perhaps unconscious. The conscious will or ego may have been destroyed by accident, design, or may never have existed or been developed, as in the case of anencephalic idiots, but we must not therefore assume that such creatures may not have an unconscious mind or will:

"Are the phenomena of organic life which they manifest under such circumstances to be justly attributed to automatic or mechanical agency?" the author asks. "Physiologists in the main say, Yes; we, with no disguised diffidence, say No. The logic of analogy compels us to recognize in the similarity of the grey and medulary substance of the spinal cord and its crowning bulb—the medulla oblongata—to that of the brain, a similarity of function—a lower grade, probably, but still similar; that is to say, unconscious mind and will. To us it seems unreasonable to suppose that an individual or an animal has no intelligent agency in what goes on in his organism unconsciously to himself; that those actions which he performs in his waking hours, as walking, winking, writing, playing on musical instruments, co-ordinating speech, etc., are automatic or mechanical because they are performed without disturbing his conscious attention. Why, all the phenomena of the sympathetic and spinal systems go forward unconsciously in the most systematic manner possible to

conceive in health; and we are never conscious of them uutil disease sets in and suffering comes! . . . As the sensori-centres of the cerebum may perform their functions —think and feel—without consciousness, giving rise to that misnomer 'unconscious cerebration' (just as if cerebration were ever conscious except in mania) of Dr. Carpenter, so the sensori-motor and sensori-mental functions of the cord and its ganglia, in their normal state,are always performed without consciousness. And we do not know we have such a system until it becomes disordered; then 'automata' are without method; the 'acquired experiences' of the animal avail him nothing; the skilled hand has lost its miraculous dexterity—it is paralyzed. . . . Disguise the truth of the condition with Greek derivitives as we will, the fact remains that the automaton will cease its automatic actions when the directing agent of them has ceased its intelligent interposition and directing agency.

This conception of the unity of soul and body may be objected to by many as being incompatible with the belief in immortality and in a Supreme Being. But the author argues that no such incompatibility exists. In one of his most eloquent passages, and there are many in the volume, he says:

"Crude nature becomes to him one vast laboratory, in which concealed but cunning hands work the divinest miracles. Every molecule goes to its appointed place and fills its allotted sphere as by Supreme direction. The little atoms lose, for the time being, those 'properties' of which many observers have boasted they could conceive 'as having an existence independent of matter;' and appear when incandescent like mathematical points, as they really are, all aglow with celestial flame. Even the hard, impenetrable solids glimmer with crystal light. . . . The crudest elements of earth, in the presence of their affinities, seem radiant with life and animate with purpose. In view of these things it is no wonder that he who lived and worked so long in the chemical laboratory, in the very presence of the majesty of molecular mysteries, should have grown learned and reverent as he grew old, without the aid of schools, religious symbols, or the sacred penworks of antiquity. He, Michael Faraday, to whom we refer, with his crucible and re-agents, chemical and electrical apparatus, lived and communed with the Divine daily, and on terms of greater intimacy than did Enoch of old, or Moses in the light of the burning bush amid the thunders and lightnings of cloud-capped Sinai."

In regard to immortality, he says: "Our senses may properly dogmatize in respect of the fate of the bodily organization, as well as that of any organic or inorganic form whatsoever. The process of living is one of de-organization, if we be allowed to use such a term, and when this double process ceases and de-organization alone bears sway, the form begins to vanish, and is finally broken up into its elementary constituents, and with it—for aught we know—the psychical powers which were identified with it and contingent upon it. But while this fact is demonstrable on the objective or scientific side of nature, it by no means follows that de-organization of organic forms ends all. Such a conclusion is not justifiable except by assuming that our powers of observation are infinite, and, therefore, capable of taking in the whole range of cosmic phenomena. But, it is needless to observe, our powers of observation are finite. There may be forms of matter, and therefore, modes of being, of which we know nothing, and which could only become sensible to us by an augmentation of our sensibilities."

And in reference to the existence of a Supreme Being: "But the objection in this instance, as in the other, is valid only against those crude ideas of God which have taken on form and been embodied in dogmatic theology. One should reason on this subject—and on all subjects—from what one knows, reverently trusting in the wisdom of the end to which one's lines of logic and discovered truth lead."

In regard to supernatural interference with human events the author has decided opinions, believing that what are so often ascribed to a supernatural agency are the result of natural causes, "Barring causes material and fundamental," he writes, "the providence which shapes our ends is no mysterious power behind the planet, or back of the universe, but a living palpable presence in the heart and brain of the body politic." While denying that a personal providence is the responsible author of "memorable epochs and great calamities; railroad collisions and shipwrecks; droughts, earthquakes and famines—all for a wise but inscrutable purpose," as is believed by many intelligent persons of to-day, the author throughout his work shows a reverence toward that divine Spirit which is above all, beyond all, and in all, and which is reflected in the heart of man. Instead of regarding misfortune and suffering, however, as divine chastening, he says: "The ills of life are rather the consequences of ignorance, injustice and wrong doing; and if they re-act on the individual conscience, and bring him down on his guilty knees, and compel him to think more deeply on himself and nature, as they sometimes do, let us thank Divine wisdom for the fact, but at the same time, preserve the integrity of our logical intuitions."

Furthermore, the author insists that:

"The causes of phenomena, whether physical or moral, must be sought for in the phenomena themselves, and traced step by step through every combination of causes, until each connecting link in the chain of causation is found, and the circuit within which the phenomena occur, completed. The supernatural disappears in the process as naturally as darkness before the advance of light. . . . So far from the day of miracles being past, we aver that, barring the improbable and fictitious, there never was a period since the dawn of history, when the very events which have been ascribed to the miraculous were so numerous as they are to-day. But they yield to the touch of the scientific spirit. The miraculous disappears before investigation as winter's frost before the advance of summer's heat. That which is past in this matter is the belief in miracles, and surely heaven has no further need of that. . . There is surely nothing in the recorded doings of Christ, or of the apostles, or of the christian fathers and ascetics of the Middle Ages more wonderful than the psychological phenomena which are daily occurring in our midst. All the marvelous works which the divine Jesus did in Galilee and elsewhere, to the astonishment of His followers, are being done to-day by divers believers and non-believers throughout Christendom. Jesus distinctly disclaimed the exercise of exceptional powers when He did those things that surprised people so much, and frankly told His followers, by way of quieting their surprise, that they should do greater works than those He had done in their presence. And His prophecy has been verified. The gift of healing, which signalized the marvelous and sublime career of Jesus, is now exercised by thousands. The deaf are made to hear; the blind to see; the lame to walk: the paralytic to recover

the use of his functions; and often by the agency—by no means supernatural—of prayer alone. Epilepsy is charmed out of people, and madness dispelled as if by magic. The apparent dead are revived, and that, too, after having been buried many days. The ignorant speak in unknown tongues, write in foreign languages, read sealed letters and closed books, perceive the thoughts we think and the emotions we feel, transform material substances and correlate organic forms, etc., and all by the exercise of powers, which in the absence of a knowledge of the laws and powers of mind, could not but be attributed to the occult agency of departed spirits, or to that of a personal and supervisory Creator. Such powers as these are now known to belong to mentality in its bodily organization; and until the fact was definitely settled we think mankind was justified in attributing phenomena so strange and extraordinary to a supernatural, if not to a Divine agency."

The chapter on "Divine and Human Agency," or as it might not inaptly be called, since it deals with the physiology of the subject, "The Physiology of Inspiration," will no doubt draw upon the author the dissent of both sceptical and orthodox minds. In this chapter, more than in any other part of the book, the author displays the peculiar quality of his mind, a mingling of the mystical spirit with the scientific. It is really the groping of a human soul toward light, and while he disputes none of the physiological facts of to-day, but rather accentuates them, he insists that science has not yet said its last word, and until the limit of human knowledge is defined, it is idle to deny, though one may properly question, what cannot triumphantly pass the test of inductive analysis. "Science bewilders us," he writes, "not only by what she reveals, but by the vastness of the possibilities which she opens to our unexpanded perceptions."

After alluding to the acceptation of the term *inspiration*, as it is commonly understood by the theologian and controverted by the scientists, the author says: "It is our firm conviction that the chief and most frequent source of so-called inspiration is from within—*subjective*, arising in a state of peculiar sensibility, perceptivity, rather than receptivity; a state in which the higher mental faculties are enlivened and rendered illuminated, that is, peculiarly sensitive to its surroundings and alive to the finer relation of things—to the occult causes of sensible phenomena."

"Moreover, the nervous system, in a condition of healthy activity and normal, plenary development, is always inspired," he avers. "The brain and nerves are so generally incapable of exercising their full normal powers, their function is so generally sluggish or ill-performed; the full power of thinking, willing and feeling, in any superior sense, is so often wanting among human beings, that when an instance the converse of this occurs, every obtusely minded member of the human family cries out, 'Supernatural!' 'Inspired!' 'Divinely Inspired!' The imputation may have no basis of fact except in the extraordinary or unusual character of the mental manifestation. It is made, too, as a cover or excuse for the short sight or stupidity of less gifted souls. Nothing can be farther from the truth than such a claim. In fact, the nervous system of man, especially the sympathetic system, is not only the centre whence emanates mental manifestations extraordinary or otherwise—the centre of the emotional life—the divine afflatus—but the normal and plenary exercise of its function produces the divine afflatus itself, or the mental phenomena, which, for their unusual and often amazing character, pass current as such. When in this harmonious mood and fine working condition, the nervous system, in the exercise of its own natural, rightful powers, sees and feels, appreciates and apprehends, its higher relations—the divinest truth. . . . The more we observe the phenomena of human life, the more we incline to respect the inspiration which comes from large stomachs and good digestion."

This is a materialism so marked that Theosophists will give the author up in despair. But it conveys a part only of the author's meaning. He continues: "Perfect digestive organs give an assurance of healthy blood and properly nourished nerve centres, without which the highest order of thinking is impossible. . . . The highly oxidized fluid, as it courses on its tortuous way through the minute ramifications of the cerebral arteries, may be conceived as setting the cerebral cells all aglow with divine energy, causing ideas and emotions to scintillate and coruscate, so to speak, and giving rise to matter and manner which excite the admiration and astonishment of the auditor." The foregoing, would, no doubt, meet the approval of the pure scientist, but what will he say of the following, wherein the author takes the spiritualistic side of the same phenomena?

"Man is truly a part of his Creator. His life is the finite expression of the Infinite Life. He and the Father are one. The creed of the creature may be never so narrow and orthodox, or broad and hetrodox; he may never have felt the formal 'warning of the Spirit;' the existence of Christ and the Apostles, the Gospels or the catechisms, he may never have heard of; and yet, he is the conscious recipient of countless blessings from the Father every moment. He lives immersed in an ocean of influences, not less divine because physical and human, which he inspires with every breath and inhales through every pore. He feels the pulse of the infinite Heart in every beat of his own, and is warmed, cheered, enlivened and sustained by all those mysterious influences of mind and matter which constitute the infinity of being around him. . . . He is a part of the universe of being and a sharer of fortunes to which he does indeed contribute, but which comes independent of him. His feeling of dependence is, we repeat, quite legitimate; and were there no resources of succor outside of himself; no refuge in trouble, darkness and disaster, the individual would be one of the most miserable of creatures. The confidence which he reposes in powers superior to himself indicates the existence in the heart of a moral polarity which involuntarily determines his relative position to the great centre about which he revolves, and to which he maintains no uncertain, unfixed or indefinite relations. Just as the planet obeys a definite law of polarity in revolving around the sun, and the atom, likewise, in its relation to the molecule and the molecule to the planet of which it is a part, so the individual obeys a similar impulse in asserting his relations to the centre of the moral universe."

We have quoted thus largely from Dr. Gorton's work because the author has brought to his task those qualifications which enable him to present his own views effectively, and in a manner at once concise and comprehensive. He unites the scientific spirit with a broad catholicity of thought and sentiment, a tolerance of views that are not his own, and a firm faith in the eternal fitness and justness of things. One cannot but feel in reading this volume that the author's "abdominal viscera" are sound and have been well developed; or that nature has not acted grudgingly toward him in the matter of heart and stomach, and the sympa-

thetic system. Though many may, and no doubt will, dissent from his premises and conclusions, they cannot deny him that spirit that breathes of peace and good will toward all men, which is the inspiration of all true religion.

The author's literary style is full and vivid, replete with the fine shading of expression that is so essential to the presentation of a subject of this nature. Occasionally, however, he takes a poet's license in using a superlative adjective in the superlative degree, which seems unnecessary to one who has so wide a command as he of English speech. The "Supremest truth" would lead one to infer that there are comparative degrees of supremacy. Would he also say the Supremest Being? He makes use, too, of the expression, "divinest truth." Would he say humanest error? These are questions of taste as well as grammatical construction. Milton has been scored for indulging in a similar solecism in that matchless soliloquy of Satan, after he had succumbed to his evil destiny and been defeated by Heaven's "Matchless King," yet is still suffering from the last lingering memory of good which he brought with him from Heaven:

> "And in the lowest deep a lower deep,
> Still threatening to devour me, opens wide,
> To which the hell I suffer seems a heaven."

Who would not rather that all the rules of grammatical construction had been violated, than to have lost this inimitable description of those illimitable depths of infamy which opened before the Fallen Angel!

If the value of a book may be measured by its power of awakening thought in others, or of acting as a stimulus to the thinking faculties of its readers, "The Monism of Man" is certainly a great work. It invites a careful first reading, and even a more careful re-reading, not only on account of the fascination of the subject itself, but for the vistas of thought it opens on every side to thinkers of all professions. The honest skeptic will find reason to pause and re-examine the basis of his doubts; the credulous believer will be afforded an aid whereby to correct the fallacies of his faith, and to reach a more valid and rational basis of belief, as well as a higher and truer conception of the Divine and Human. M. H. M.

Dr. A. S. Atkinson, of Pittsburg, has written a letter to the *Pittsburg Dispatch* in defence of tobacco as a preventive of epidemics. He says: "It has been a noticeable fact that in times of great epidemics those working at tobacco factories have been almost exempt from the disease. Experiments have now been made which prove that the smoke of tobacco on the micro-germs of dental caries is very beneficial. Recent experiments were made with tobacco smoke upon cholera bacilli, and according to the strength of the nicotine in the cigars were the germs destroyed or made harmless. The same is true of anthrax and pneumonia. All of the germs experimented with were cultivated on gelatine substances, but in the human system there would be some difference. Nevertheless, in case of Asiatic cholera this summer, one could do no harm in becoming an inveterate smoker for the summer months." He also regards tobacco as of use in fighting typhoid fever and other diseases.

THE PRESENT STATUS OF TREATMENT AND TRAINING OF DEFECTIVE CHILDREN.

BY MISS H. M. ROWE, CAMILLUS, N. Y.

STARTING with a sufficiently strong bias and a well developed theory it is not difficult to find reasons for the arrested development of children. And of the large number of probable causes after which must be written "not proven," it still remains that the absence of physical and mental health in the parents—leading to prenatal defective nutrition—the diseases to which the child is liable, viz.: meningitis, paralysis, epilepsy, etc., and the inability to bear the strain of the developmental periods, are causes which we have always with us.

Speaking of his study of a large range of cases of mental leison, Dr. Ireland says: "the object of such study should be to trace the case back to the cause and so guard against it in future," which, he remarks, "I am afraid we must allow is untrodden ground." We cannot but think that the current of modern thought is "looking backward" for causation that the future may be benefitted, and the student of neurotics is sure to find encouragement in so doing.

Langdon Down, M. D., referring to his statistics, gathered from many years' experience in his work with defective children, says "they show that we must look mainly to the health and mental life of the parents; they point to the importance of training our sons to be temperate and our daughters to be self-possessed." This writer makes a point which seems of great importance to the women of the present day. He says: "The doctrine which has been promulgated of late is that the higher culture of the faculties of women will make them less capable of becoming 'mothers of men.' There has been hithereto no objection to their being taught everything relating to art, music, or their emotional life, but directly there are attempts made to cultivate their judgment, to teach them how to reason, to inculcate habits of self-control, we are met by clamors which, in my opinion, are not based on experience, and, so far as the etiology of feeble-mindedness is concerned, are likely to be prejudicial. If there is one thing more certain than another about the production of idiocy it is the danger which arises from the culture of only one side of a woman's nature; so long as only the emotional side of their nature is cultivated and they are responsive to the least unexpected sound, and thrown into emotional paroxysms by the sights and trials which will be sure to cross their path, they will, from my point of view, be liable to become mothers of idiots. Without advocating over-pressure, which is as bad for the neurotic boy as the neurotic girl, and which is to be avoided during the developmental life of one as well as during the developmental life of the other, there can be no reason why the faculties

which they possess should not be cultivated so as to make them not only fit to be 'mothers of men,' but also companions and helpers of men. At all events, let the trial be made without prejudice, and let us welcome the advent of a time when women shall not be the mere frivolous toys of the hour, but have and enjoy the privileges and rights of which it is absurd to deny them." Happily this time is at hand, and women have only to avail themselves of its full fruition.

The defective child being also here, what can we do for it? These unfortunates call for our help by their very helplessness, and no time should be lost. We have but to look through their history to find the marvelous improvement judicious training has accomplished, and the best means to this end.

Authorities are doubtful, except in rare instances, of the result of operations, and the cases rare indeed where the means employed attain the end desired. But even when partially successful the child must have the most careful treatment, physically, morally and mentally. There should be no delay, as bad habits are quickly formed, and our experience, as well as that of physicians tells us that "we constantly meet with children who have grown up a trouble to themselves and to those around them, often from the injudicious treatment of some ignorant nurse, who tyrannizes over the family by her supposed essential relation to the child."

As we cannot make brain matter we begin with the *known*, striving to develop the dormant faculties and encourage the feeblest efforts of the child, which must, in time, result in *growth*. Our success will depend largely upon the improvement of the physical condition, so that we must look closely to the child's diet, exercise, baths and general comfort and happiness. We "learn to do by doing," and anyone who has had the care of children knows that a busy child is generally a happy one, and every student of manual training believes that a busy child is a *better* child. It is impossible to bring in harmonious relation the muscles and the will without improving the physical quality of the brain and other nerve centers. So we strive to give to these unfortunates the "joy of doing." Parents frequently tell you that "the child is mischievous and unmanageable," but as soon as it is placed in surroundings suited to its capacity as an infant, in mind if not in stature, this trouble ceases. The power of attention is so weak that class instruction is often impracticable, and there is no place for the defective in our day schools. They must have time given them and infinite patience. "Why do you have that child try the same motions a hundred times a day?" "Because she does not do them right in ninety-nine times trying" was the characteristic and gentle reply of the elder Seguin, who, after eight years of toil demonstrated to the commission of the French Academy that children of arrested development could be educated. His success did not elate him him, but he went forth murmuring "Love has done it all." He tell us "idiocy is not the result of deficiency or malformation of the brain, but is simply an arrest of mental development and that in the majority of cases this may be overcome and the child restored to society and friends."

What the kindergarten, with its joyousness and unconscious work, is to the ordinary child, the training school should be to the child of slower development. The change from home surroundings and their oft-times lack of regularity and discipline is a help in rousing the child. Why do people make a mistake of thinking that because defectives cannot accomplish what ordinary children do they do not need the help of training? A mother writes: "we have taken our little son to a specialist and he gives us no hope that the child can be cured, so that the best we can do is make his life as happy as possible." Yes, but how? In after years will the child not have a right to ask why he did not have the help he needed so much more than a bright child who could do something for himself? The training school should be a place where a mother can leave her child feeling that with all her love the best love is that which will be the most help to the unfortunate one. "There are many weary mothers who are spending their lives caring for these afflicted children, neglecting perhaps others who need their care, and motherlike devoting themselves to the stricken one, at the same time increasing the probability of adding, by their very anxiety, still others to a neurotic race."

An eminent medical authority says: "There are two great hindrances to the early and successful training of feebled-minded children arising from misconceptions on the part of many members of the medical profession. It is constantly said to the anxious parents of these children, 'do not be troubled, the child will grow out of it; wait till he reaches seven years;' if the child has reached that age, than wait till he has reached fourteen. I know nothing of cataclysmal improvements, such as are here indicated; the opinion and advice have no basis in experience. The septennial periods referred to are periods of anxiety and peril; they are not periods of sudden leaps from mental feebleness to mental vigor; they are on the contrary, developmental crises full of danger, periods when wreck of what mental power exists is liable to take place; how much one has cause to lament the precious time lost by the parents thus being lured into a fool's paradise! It should be remembered that the increments of intelligence are slow; that every proper habit has to be implanted; that many things that are thought instinctive and appear to come naturally, have, with painstaking solicitude, to be taught. Bad habits of the most serious kind spring up which militate against the progress of the child while waiting for the sudden change which never comes. The other great mistake in the medical advice which is often given is the insistance to the mother that

her child shall not mix or be trained with children like himself, but with more intelligent children. Now, flattering as this may be to the parents, it is thoroughly baneful to the interests of the feeble-minded little one. The most successful training is effected with the child's equals; in this way a healthy emulation is established. Intelligent children will not take part in the amusements and games of the feeble-minded ones; moreover, there is no community of feeling or interest. The outcome of an attempt to train the feeble-minded child with others more intelligent than himself is infallibly to make his life *solitary* and to accentuate the condition which it is of the greatest importance to correct."

There is no secret process, any more than there is a "royal road to learning." What infinite patience has done, it can do, but the sum of the whole is that with patience and love wonders have been accomplished and can still be.

And is not the reward greater for the difficulties that must be met? Every enthusiastic teacher of defective children knows the joy that comes after long waiting, in the slow, but sure, improvement of her pupil, and is more gratified at any sign of improvement than by any feat an ordinary child could accomplish.

The same helplessness that makes the mother's love so tender appeals to the teacher also. The greater the need, the greater her care, How shall these children improve if they are not taught, constantly helped and encouraged to do their little best, whatever that may be? We are told to "comfort the feeble minded." Is there any way this can be done better than by helping them to help themselves?

Verily, is there not a reward for anyone who will come to the aid of these unfortunates, that from no fault of their own are carrying heavy burdens, grievous to be borne. Let us make haste lest the cry of the children smite us.

CLINIQUE.

SOME SUGGESTIONS FOR THE PREVENTION AND TREATMENT OF CHOLERA.

BY W. THORNTON PARKER, M.D., GROVELAND, MASS.

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TO be forewarned is to be forearmed. This is especially true when we are confronted with the possible outbreak of so dreadful a disease as cholera. The very general public alarm which exists throughout the country may be unreasonable, but facts are stubborn things, and that we have ships at our ports which have very recently contained cholera patients is certainly a very decided premonition that the cholera scourge, before it has been banished, will have made more or less severe impress in this land.

In offering a few suggestions we cannot do better than repeat the old adage, "that an ounce of prevention is worth a pound of cure." In the first place, don't worry, don't discuss the symptoms and all the dread facts relating to cholera. Cleanliness of the person is one of the most important sources of health, and this is especially true when great epidemics are prevailing. Frequent bathing and changing of the underclothing and of the outside clothing is of the greatest importance. The bedding and clothing should be aired as much as possible in the sunshine; and it is well at this season of the year to employ disinfectants about the house. Sanitas is peculiarly useful for this purpose. Avoid fatigue, exposure, intemperance and all excesses or anything which has a tendency to depress the vital energies. Take a full amount of sleep and endeavor to "take life easily" in general. Let "regularity and temperance" be your motto at all times, and especially in times of pestilence. While the drinking water is very apt to be the medium by which the cholera germs are distributed, it is by no means the only source of contamination. The contagion of cholera can be carried by so many agencies, not excepting the atmosphere itself, that it would seem almost impossible to exclude so persistent an invader.

It is therefore expedient that we should use the purest water obtainable at all times, more especially during the present season; the clothing, food, utensils—indeed anything handled by cholera patients seems to be capable of transmitting the disease to others—which makes cleanliness as a preventative still more urgent. The sanitary arrangements of dwelling houses demand careful attention and thorough cleansing. The surroundings of the house, streets, yards—every possible source of danger, should be guarded. It is well to consider whether the house is very crowded or not, as crowding is to be avoided, as it favors the propagation of the disease.

With regard to food, all drinking water or milk should be boiled. This is especially important where the water supply is so very inferior as in cities like Chicago, Minneapolis, Philadelphia, Burlington and other places well known. The bowels must be kept in perfect order. This can be accomplished by attention to diet, by such remedies as each individual case may require. It is a safe rule, however, to avoid all saline laxatives. Acidulated water is very often considered useful as a preventative. Whether this is a fact or not remains to be proven; but certainly some of the most excellent authors have found this acid treatment valuable. Such writers as Dr. Hartshorne, who has been such a careful observer of cholera, recommend the use of acidulated drinks. I believe that our common lemonade, if made somewhat stronger than usual, is an excellent drink at this season. The acid is supposed to act by retarding the growth of the comma bacilli.

Several drugs have been recommended for this

purpose — salol particularly—on experimental grounds by a German physician. There is no known remedy that is directly antidotal to the cholera.

The treatment to be employed should have the following objects in view: To check the diarrhœa and vomiting and to relieve the collapse as speedily as possible. For this purpose various combinations of opium are employed. The following mixture will be found excellent. It is known as the Catechu mixture, and can be obtained at any drug store:

℞ Tincture Catechu..... ℥i
Tincture Opii Camph..... ℥i
Fl. Ext. Zingib..... ʒ ijs
Spts. Camphor..... ʒ ijs
Spts. Vini Gall..... ℥ ii
M. S.—Dose ℥ ss, to be repeated as directed.

A combination of general and local stimulants, local sedatives, astringents, and stomachics has proved of benefit in the majority of cases.

It is most important to recognize the disease in its first stage, for at this period simple treatment is often attended with success Later, in the cold stage or in that of collapse, about fifty per cent. die, even under the most skilful management of physician and nurse. (Dr. Hartshorne.)

The collapse is generally due to the severity of the diarrhœa, although this is supposed to be an effort of nature to eliminate the poison. On this account many excellent physicians recommend castor-oil and other evacuants, but the general profession is opposed to this treatment and in favor of remedies which will diminish these debilitating discharges.

"These discharges are first yellow and fetid, and later on become whitish and grayish and are often bloodstained.

"The blood is deprived of its water, becoming greatly decreased in bulk and thickened so that the poor weak heart cannot supply the thirsty and famished tissues.

"The breath is icy cold, respiration shallow, while the voice is husky and whispering.

"The skin is cold, blue and shrivelled and bathed in cold, clammy sweat. The extremities first become cold and afterward the body itself; the urine is scanty and suppressed.

"The patient grows weaker and passes into a state of unconsciousness and death ensues. Treatment at this stage is usually followed by little apparent benefit." (Dr. Hartshorne in *Medical News.*)

Two preparations have been recommended for use as preventive of this condition, one of which is called the Asiatic Tincture.

℞ Chloroformi..... ℥i
Camphora..... ʒ ii
M. Sol. et add
Spts. Althæus Comp..... ℥ ii
Tr. Opii, Tr. Capsic., Ol Caryophyli ..... aa ℥ js
M.—Dose, from five to fifty drops in water.—*Med. News.*

Then the following combination has been recommended by Dr. Squibb, of Brooklyn:

℞ Tr. Opii, Tr. Camphora, Tr. Capsic. ..... aa ℥ i
Chloroform purified ..... ℥ iii
Alcohol, strong q. s. ad..... ℥ i
M.—Dose, a teaspoonful in water. (*Medical News.*)

Some years ago I met Dr. Brown, of Southsea, England, formerly an officer of the British Army; he was the inventor of Chlorodyne. He gave me details of the successful action of this remedy. This has proved an exceedingly valuable remedy, not only in India, but in other countries, in the early stages of Cholera and in severe forms of diarrhœa in general practice.

A very useful remedy is to take brandy and set fire to it, burning it thoroughly, giving what remains in teaspoonful doses, frequently repeated. This can be given either perfectly plain or in combination with lime water or common soda water. This of itself will often control the vomiting and is of course useful as a stimulant and restorative.

A local application of mustard at the pit of the stomach is often useful, and occasional doses of morphine, one-eighth of a grain. For the checking of the vomiting, cracked ice and champagne is to be recommended.

The collapse is best antagonized by hot stimulants, such as hot coffee, brandy and milk and an external application of heat in various ways, such as hot water bags, blankets, flannels, etc.

The hot bath has been recommended by some physicians.

The stage of the collapse is of course the most hopeless in treatment. The dejections are thrown out by bowel and stomach simultaneously. In some cases distressing hiccough is persistent. It is in this stage the dreadful cramps in the muscles of the arms, legs, abdomen are noticeable. The patient is weak, heavy, stupid, the eyes are dark and sunken and the tongue is dry and covered with film; the nose is sharp and pinched and the whole appearance betokens the advent of death. The premonitory symptoms are sometimes ushered in with general wakefulness, restlessness, languor and depression, noises in the ears, headache, muscular weakness and a weak small pulse, but often the early symptom is simply mild diarrhœa. The stools are at first yellow, afterward watery, copious and frequent, with abdominal pain, slight tympany, borborygmi and nausea. The extremities, especially the lower, become painfully cramped.

This stage may last several days, or only for a short time, and may escape observation altogether.

Prompt measures at this stage may stay the disease, hence the importance of recognizing the earliest symptoms. Thoughtless persons and children are usually the ones that allow this stage to pass without attention. Such persons should be carefully watched by those having charge of them.

During an epidemic any tendency to looseness of the bowels, even if seemingly innocent, should be promptly attended to by sending the patient to bed and carefully regulating his diet. Chilling draughts should be avoided, and under no circumstances should patients be allowed to rise; a bed-pan should be used when the bladder or bowels are to be evacuated.

If a slight attack of a seemingly simple diarrhœa does not yield at once to rest in bed and the administration of a dose or two of warm infusion of chamomile to which chlorodyne or laudanum has been added in proper quantity, then recource should be had without loss of time to an injection of tannic acid.

A rectal syringe, which has been made for me by Messrs. Tiemann, of New York, with a long, soft, velvet rectal tube, is especially useful in such cases. Dr. Shakespeare gives the tannic solution, recommended by Cantani, as following: boiled water or infusion of chamomile, warm, one quart; tannin, two to three drams or more; laudanum, thirty to fifty drops; powdered gum-arabic, four to five drams. The temperature of the mixture and the quantity to be injected varies according to the age of the patient and other circumstances, according to the judgment of the physician. It should be given immediately after the evacuation of the bowels.

When cholera is prevailing, special care should be exercised with regard to clothing, especially the flannel underclothing, of which not too much should be worn to weaken, but enough to prevent sudden chilling of the abdominal organs.

Very excellent abdominal bands have been made. These vary in thickness accordingly as they are to be worn in summer or in winter. They are pure wool, of double thickness.

One should be careful of exposure to the severe sun of mid-day and be careful about being suitably protected, if obliged to go out after sunset.

Where death has occurred, it is well to envelope the body in large sheets of cotton batting or absorbent cotton, saturated with some antiseptic solution; outside of this a sheet should completely envelop the body, secured in position by tapes at the top of the head, at the neck, around the chest and under the arm-pits, at the waist, at the thighs, at the knees, at the ankles and beneath the feet.

In this manner the body is rendered less dangerous until its removal.

In no disease is the prompt attendance of the physician more needed than in cholera.

Courage, patience and presence of mind are earnestly needed by all—and in attendants as well as in patients. No battle-field can afford instances of greater heroism than those exhibited by the faithful attendant of the cases in cholera epidemics.

RETROSPECTIVE DIETETICS.

Prepared Foods.—Many prepared foods, says Dr. Cyrus Edson, are offered to the medical practitioner, each claiming special advantages.

As the physician is usually unable to personally examine these foods, to determine their composition, he must rely more or less on the statements of the manufacturers, and test such foods by actual practice.

In using prepared foods very great care should be taken at the outset to see that they are in good condition, that no deterioration has taken place through infection with the germs of putrification or of disease. We can only be certain in this respect of those foods that are delivered to us in hermatically sealed packages, the contents of which, when milk has been used, has been sterilized before packing. There is little doubt but that much harm has been done by the use of partially spoiled foods.

It has been quite positively settled that an infant under seven months old cannot digest starchy food. The salivary glands are not yet properly developed, and the secretion of ptyalin, the ferment of the saliva which acts on starch, does not exist until after the above age. It would naturally seem then that an all milk food would be the only one to use. As far as I am aware Reed & Carnrick's Lacto-Preparata is the only food of this kind offered to the medical profession or public, and from what I know of its composition, its preparation and the results obtained by its use I am justified in saying that it is a most excellent substitute for mothers' milk, and is the safest to use during epidemics of typhoid fever, cholera infantum and Asiatic cholera. The milk used in Lacto-Preparata is selected with great care, the dairies being under constant supervision. The milk is run through centrifugal machines which not only remove the cream, that constituent which would cause deteoriation of the product on keeping, but which also remove all foreign particles, thoroughly cleansing the milk, so to speak.

The cream later on is partly replaced with purified cocoa butter, which has been found by experiment to be as digestible as milk-fat and of equal nutritive value. Moreover it does not spoil.

The mixture of milk and cocoa butter is now made alkaline with lime water, then sterilized, evaporated to dryness, ground and packed in hermatically sealed sterilized cans.

The same firm produce another food, adapted to the use of older infants and of invalids, called Carnrick's Soluble Food. It is prepared similar to the Lacto-Preparata, but contains about one-half (½) its bulk of dextrinized flour.

There is only one word of caution that must be given concerning the artificial feeding of infants; it is this: Watch carefully the condition of the child; if its flesh becomes flabby and it does not seem to thrive as it ought, try the effect of small doses of a reliable emulsion of cod liver oil. It is possible that the system needs a little more fat than it is getting in its food. No prepared food, as far as I know, contains as much fat as the one recommended in this paper, but it is impossible to prepare a palatable food that will keep and which will not be open to more serious objections than a slight deficiency in fat.

Sulphur in the Treatment of Chlorosis.—Prof. Hugo Schulz, (*Med. Neuigkeiten* No. 17, 1892), recommends sulphur in cases of pure chlorosis where iron has no action. In such cases the general condition is much improved by the administration of sulphur. After this drug has been given for a time the use of iron may be begun again and successfully carried out. On the contrary, it is not well borne in catarrhal and inflammatory states of the gastro-intestinal tract. The form of administration is:

℞ Flowers of sulphur..... ʒ ijss.
Milk sugar..... ʒ xxv.

Sufficient for ten powders. A knife-pointful three times a day.

The New York Medical Times.

A MONTHLY JOURNAL

OF

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EDITORS.

EGBERT GUERNSEY, M.D. ALFRED K. HILLS, M.D.

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SYMPTOMATOLOGY NOT THE ONLY GUIDE TO DIAGNOSIS.

THERE can be no question that the careful individualization of cases which the more minute and scientific study of our profession in its various departments during the past few years has developed has led to a more correct understanding of what is called disease, and to a much more successful treatment, in which drugs often play the least important part. There is undoubtedly a large class of diseases which come under a distinct and long recognized head, but there is still another large class to which no name can be given, and to the cause of which even the most careful study of symptoms can lend but little aid. Not infrequently careful comparison of symptoms in the individual with those produced by the drug shows a complete picture, one with the other, alike in all their lights and shades, and yet the drug, if given, may produce nothing more than temporary relief, if even that, simply because the symptoms may have failed to reveal the cause. This cause may exist in the surroundings, in unpleasant associations, in domestic or business worry, and from a hundred causes which drugs have no power to relieve or remove. For one or all of these unnamed diseases, characterized by disturbance, our old friend, Dr. Hempel, of blessed memory, would give *aconite*, and wonder why the drug proved so untrustworthy. Our old school friends in ninety-nine cases out of a hundred in neurasthenic conditions, would give some of the bromides, with simply palliative effects. If the drug is given simply as a palliative, there can be no objection to it, for very likely the disturbance of the brain is the same, produced by a quarrel with the cook, or as the result of a quarrel between husband and wife, a tiff with one's lover, or worry in business, and the hypnotic action of the drug gives temporary oblivion. It is hardly fair that our learned brothers who criticise so sharply the claims of patent medicines as a universal cure should follow so closely in their footsteps in the use of one specific for every trouble of a nervous origin. Iodide of potash in syphilitic swelling of the periosteum and in nodes upon the bone, produces absorption and cure, but not withstanding this remedy produces disintegration and absorption in such new low organized tissues as are produced by syphilitic poison, it has no power to destroy healthy organized tissues, such as we find in hypertrophied bone. This fact is all important in selecting a remedy.

From the fact that iodide of potash is a powerful absorbent in certain conditions of the system, it is often prescribed in tuberculous menengitis, and yet observation repeated many times in hospital and private practice has confirmed the statement we have heard from the lips of our preceptor, Dr. Valentine Mott, in our student days, that he had never seen a case cured or even relieved by this drug. The violent autumn diarrhœa, so intractable in some hands, when studied from the standpoint of symptoms alone, if the fact is recognized that the whole system is clogged by the poison of carbon half consumed and its chemical changes, introduced into the system during the hot weather in larger amount than it can utilize, the mind would naturally be directed to some of the acids, more especially sulphuric acid, or malic acid, the latter in the form of cider and in the majority of cases the relief will be prompt and permanent. However important to the successful practitioner the careful study of symptoms must be, he needs a wider range of study and a greater knowledge of cause and effect to meet the emergencies of his every day work. The mind should be so trained as to be almost intuitive in its perceptions, following every clue to the cause as well as the condition, so as to be able to prescribe with the greatest benefit.

THE CAUSE OF CANCER.

THE pathologist, the bacteriologist and the chemist have studied with knife, microscope and test tube this seemingly almost independent and malignant growth in its destructive and death dealing progress, and yet have cast but little light

upon the cause or the treatment of a malady for which as yet no certain cure has been discovered. Dr. O. Sullivan, in the December issue of the *Australian Medical Journal*, gives a brief summary of the discoveries and theories of numerous investigations into the cause and growth of cancer. Interesting, inasmuch as it shows the constant effort to master a disease which is looked upon as the opprobrium of our profession.

"Professor Kubasoff, of Moscow, after a long period of bacteriological research, arrives at the conclusion that cancerous growths are caused by a special pathogenic, rod-shaped microbe, which, when inoculated under the skin of animals, gives rise to cancerous degeneration, commencing in the nearest lymphatic glands, and subsequently spreading to the internal organs. Albarrau, Darier, Thoma and Wickham have found an organism in cancer which they describe as belonging to the protozoa. Delepine, Duplay, and Cazine demonstrate the presence of psorospermiæ and coccidiæ in epithelial tumors and cancers. Sudakewitch, who has obtained specially good results in his experimentations, demonstrates most accurately certain micro-organisms which Metchnikoff asserts are nothing else than psoropermiæ and coccidæ. W. Russel describes, before the Pathological Society of London, the existence of protoplasmic bodies, which he terms the characteristic organisms of cancer, and which are now known as fuchsine bodies. Woodhead, in his Practical Pathology, just published, says: "There can be no doubt whatever that the organisms to which Dr. Russel draws special attention are similar to those described by other observers as psorosperms." Whether these parasitic bodies originate the malignant process and are the cause of cancerous affection, or whether they result therefrom has not been finally decided; but when we consider that all recent biological research has proved their occurrence in the epithelial cells, and that they undoubtedly give rise to cell proliferation, as proved in the lower animals, we must at least admit the strong probability of their casual agency in the production of cancer.

O'Sullivan concludes:

1. That whatever produces chronic ill-health depresses the nervous system, and is clinically found to constitute an influence strongly predisposing to cancerous developments generally.

2. That local agencies exert only a minor influence in their direct genesis.

3. That while rapidly increasing in prevalence in civilized nations, they are almost absent among the savage.

4. That malignant disease is in very many instances primarily local and due to disordered functions, as proved by the fact (known to all surgeons) that the disease when promptly removed may never recur.

5. That benign ulcerations may became malignant, when it may be assumed the phagocytic action of the lucocytes has become subjugated by the micro-organism.

6. That disease of any kind, whether malignant or inflammatory, never occurs in an individual whose functions and nervous system are in perfect health, and who has, as a consequence, perfect local and general resistance to all pathogenic micro-organisms—in whom phagocytosis is healthily and perfectly accomplished. (And here I may be allowed to say that Mr. Jonathan Hutchinson insisted that cancer is simply a modification of what occurs in chronic inflammation.)

7. That when, from continued irritation, depressing influences, or advancing age, the physiological character and vitality of the animal cells become lowered, cancer finds all the conditions necessary for its growth.

8. That, in a word, cancerous disease is but one of the many proofs of over-pressure on the nervous system, which the artificial and vicious conditions of modern civilization involve.

In other words that the living organisms in the form of bacteria, microbe, bacillus, found in diseased conditions as cancer, cholera, anthrax, various forms of fever, are the results of causes acting primarily upon the human organism and disturbing its healthy action. Whatever the action of these organisms may be, whatever the character of the ptomains produced by them, it is evident that remedies directed solely to the destruction of the organisms can produce only temporary relief, it being necessary to eradicate the cause itself before entire cure can be obtained. The tendency to look upon these organism as the primary cause rather than the result of diseased conditions leads to a routine treatment in which prevention and the real cause are in a measure overlooked.

WHAT next? The *Chemist and Druggist* gives us the details of a process of combining chloroform with the anhidrides of salicylic and cresotinic acids, so as to produce solids from which the pure chloroform is easily and quickly obtained.

MONTES PARTURIUNT NASCITUR RIDICULUS MUS.—Some few months ago a Dr. George Gould of Philadelphia, no relation to the late Jay Gould, advertised extensively that he would give a prize of $100 in hard cash for the best essay on "Modern Homœopathy; its Absurdities and Inconsistencies." The period of incubation having passed, the essay, a copy of which after some trouble we have been fortunate enough to secure, was given to the public with the name of the author, William W. Browning, A. B., LL. B., M.D., lecturer, member, etc., Brooklyn, on one side of the page and that of the giver of the munificent prize, Dr. George M. Gould, 119 South Seventeeth St., Philadelphia, on the other side, while directly under the name of the young and brilliant author, as a kind of motto, a verse from an immortal poem of that grand old Homœopath, one of the earliest and most enthusiastic adherents of the faith in this city, William Cullen Bryant. As we recalled the picture of the old man as we have seen him more than once standing on the platform before a house crowded with a cultured and refined audience, administering, as president of a Homœopathic college the Hypocratic oath to the graduating class of the college and conferring on them the degree of Doctor of Medicine, and remember him also with A. T. Stewart, the millionaire merchant, presenting a petition to the Commissioners of Charity and Correction, signed by tax payers of the city representing over $400,000,000 of property, demanding in the name of right and justice a Homœopathic hospital and securing that known as Wards' Island Hospital, we could not help wondering if the spirit of the old man could again visit the earth and take cognizance of the things of time, he would not feel much more like putting the fool's cap on the head of the brilliant young essayist, than striking his own breast with the wailing cry of *mea culpa! mea culpa!*

When Dr. Browning has lived a little longer and delivered a few more lectures in the Long Island College Hospital, he will probably find a better author to imitate in style and truthfulness than Baron Munchausen. Is it possible the author had a copy of "Hedge's Logic" on his table when he wrote the following exquisite paragraph?

"The task of Homœopathists seems to be not so much to cure disease effectively and quickly, as, by any and every means or device, to prejudice the popular mind against scientific medicine, and thus enlarge their own constituency."

And when the writer of a prize essay could cooly give to the public such a Munchausen story as the one we copy below, with all the gravity of truthful utterance, he insults the intelligence of even the most demented of his readers. Our readers in looking over this Munchausen story will form a good idea of the fairness of the author of the $100 prize essay on "Modern Homœopathy; its Absurdities and Delusions."

Says the *New York Medical Gazette* of May 22, 1880: "Some six months ago our attention was called, by one of the inmates, to certain abuses which were being carried on in the Homœpathic Hospital on Ward's Island. At first we thought that the statements were made vindictively, believing that, no matter how much the Homœopathists might differ from us in matters purely medical, they still were gentlemen, and had as keen a sense of gentlemanly honor as any of us. It seems, however, that among the lights in the Homœopathic ranks there are to be found men who will stoop to do and to sanction acts so contemptible that the greatest criminal would blush to be thought guilty of. And yet these men call themselves gentlemen. We have of late been investigating the charges with a view of collecting proof sufficiently overwhelming to justify us in bringing the matter before the Legislature, but the ubiquitous newspaper reporter has given the whole story to the public rather prematurely for our plans. Here it is, copied from one of our leading dailies: 'On Ward's Island (N. Y. City) is the Homœopathic Hospital. This was the first public hospital ever secured by the Homœopaths, and it is costing the taxpayers of the city $60,000 a year. The Homœopaths, so it is alleged, discovered that the convalescent patients at the other hospitals got passes to go to and from the city and at once utilized the discovery. Instead of giving passes, the applicant was told to go, and when returning, to call at the Commissioners' office and get a new permit. Thus, it is said that the same patient often counted as two, three, four, or more patients admitted. Numbers of them were sent out in this manner a dozen times. By this means the admissions and discharges (as cured) were increased 300 per cent, and the percentage of deaths, of course, was correspondingly low. The mortality in the three leading hospitals, the first year after the Homœopathic started, was: Bellevue Hospital, 12 1-2 per cent.; Charity Hospital, 8 1-2 per cent.; Homœpathic Hospital, 6 per cent. On the publication of this result Homœopathic organs grew jubilant. The same course was pursued the ensuing year, and the result (on paper) was about the same, while all the time the actual

percentage, it is declared, was about 18. After nearly three years of this adroit management the Commissioners began to find it very troublesome to be issuing so many fresh permits to the same individuals, so an order was issued to let parties wanting passes have them. But the Homœopaths were equal to the emergency, and the next device, it is alleged, was to discharge the sick and keep the healthy in the building. This piece of strategy, it is said, has been carried out during the past year, and when the annual report for 1879 is published the mortality report of the Homœopathic Hospital will once more appear (on paper) astonishingly low.'"

That the Homœopathic school of medicine, so called, is, like that of any other school of medicine, full of absurdities, no one at all familiar with facts will deny, but the fact that publishers may be found to publish such a mass of incoherent rubbish under the name of materia medica as "Allen's Encyclopedia" and other works of similar character, or that individuals may incorporate their own peculiar ideas into their faith and practice does not militate in the least against those great lines of scientific thought and practice worked out by so-called Homœopaths and now forming the basis of the advanced therapeutics of all schools. We commend to the brilliant young essayist the advice which he possibly may have read but certainly has not practiced, to "First cast out the beam from your own eye that you may see more clearly to remove the mote from your neighbor's eye." Every creed and every practice contains at least a modicum of truth which the true physician does not hesitate to utilize in his life work.

WE find on our table three exceedingly interesting monographs from the pen of Dr. F. Duncan Bulkley of this city, whose writings on dermatology are recognized as standard throughout the world.

I. A very thoughtful paper, reprinted from the Maryland *Medical Journal* of Sept. 19, 1891, entitled a clinical study and analysis of one thousand cases of psoriasis, in which is given a review of twenty years' observation and treatment of one of the most rebellious troubles in the whole catalogue of skin diseases. The definition of psoriasis is, a chronic affection of the skin, exhibiting dry, red, slightly elevated patches of varying size, generally circular, covered with a greater or less quantity of dry, white, silvery scales, heaped together, the lesions tending to develop chiefly on the exterior surface. Internal treatment is strongly recommended, the local treatment being mostly palliative. In concluding the discussion of the subject, the author is most emphatic in the opinion, that psoriasis is not a local disease of the skin, but is most certainly a manifestation of some underlying condition. Of this constitutional condition we know but little, except that there is behind it a process of sub-oxydation and acidity, often exhibiting itself in rheumatic and gouty symptoms. That these symptoms are not marked in most cases does not argue, the author thinks, against the blood state of the constitutional condition underlying both.

II. The relations of eczema to disturbance of the nervous system, in which the author argues that the intimate association of certain skin affections with, and their dependence on nervous elements have passed beyond the basis of personal judgment and experience and rest upon sound anatomical, pathological and clinical grounds which are being confirmed and strengthed daily. The author looks upon eczema, uncomplicated, as a trophic neurosis, the result of a dimunition more or less complete, of the trophic influences, whatever those are, exercised by the nervous system upon the tissues. While the nerves controlling the blood supply are also affected in eczema, the real cause of the structural changes found in the skin must be charged to the nerves presiding over nutrition and repair.

"The question arises," says the author, "How far the trophic and angio-neurotic phenomena are due to an exaggerated activity in certain nerves or ganglia, spoken of as the *lower centres*, or how far they are due to a want of control over the processes of life and health, as exercised by the *higher nervous level or centre?* We all know, from experience, that local or other agencies which at one time will cause the appearance of eczema in a patient, will at another time not be followed by such a result, and we very often recognize that it is because at that particular time the person is suffering from a depressed condition of health; or in other words, that there is a lowered state of general vitality. With this there is a lowered nervous state; the patient is less under self-control, and, if a young female, may give way to hysterical manifestations. Now, in just the same manner the higher nervous centres, which undoubtedly control, to a greater or less extent, the lower centres which have to do with animal life, nutrition, assimilation, and metabolic processes, when they become weakened by prolonged strain or nervous or mental shock, they lose control of the organic

processes, and errors occur which we call disease in various organs."

THE DEATH PENALTY.—As long as the death penalty exists, the recent carrying it out by electrocution shows this process of ending life in obedience to the demands of the law to be the most certain, the most expeditious and the least revolting of any which has yet been tried. But—and the question is becoming a serious one—is a State ever justified in taking life as a penalty for crime? If intended to prevent crime—and that is undoubtedly the strongest argument in its favor—why is it that experience shows that murders are most frequent after an execution? The minute details of all the steps of the crime brought out in the trial and a record of almost every moment of the prisoner's life from the time of sentence to death, creates and keeps alive a morbid feeling anything but healthy and more likely to lead to crime than to deter from its commission. We must not forget that we are living in a different age and are surrounded by different influences than that in which the doctrine of retaliation was proclaimed in "an eye for an eye and life for life." The penalty of death is fast disappearing from European law, and yet, where it has been abolished, the result of the experiment shows in almost every State a lessening of capital crime.

The death penalty has been practically abolished in Italy since 1875. There has been no execution in Wallachia since 1828, and none in Moldaria since 1849. The last execution in Portugal was in 1846 and in Holland in 1861. In all but eight cantons in Switzerland executions have ceased. In Finland, Belgium and Norway the law is still on the statute-book, but the penalty has not for years been exacted. In Denmark only three persons have been executed in over twenty years. In Germany the death penalty would have been abolished in 1870 had not Bismarck demanded on the third reading of the bill a restoration of the penalty, and carried his point. In Russia murder is punished by penal service in the Siberian mines, the death penalty being reserved for crimes against the State. The guilotine and the gallows still occupy an important place in French and English penal law, but the victims are diminishing with every decade. In this country the penalty has been abolished in Michigan, Rhode Island, Wisconsin, Maine, and also in Venezuela, Costa Rica and San Marino, and the question is being seriously agitated in nearly all the other states of North and South America. The question is ceasing to be one of sentiment and is appealing more and more to those principles of justice in which are involved the best interests of the community. No doubt there are many so little removed from the animal creation in all their brute instincts that at large they are a constant source of danger, but is the fault actually theirs? Looking back through the strain of heredity and unhealthy mental and physical training, would not the Church and the State be doing better service in the prevention of crime to cleanse society from the incentives to crime, and, while it exacts a penalty, stops this side of the taking of life?

THE following appreciative words fell from the lips of Mr. G. M. Miller in his address at the laying of the cornerstone of the new St. Luke's Hospital in this city:

"Whatever the discoveries and progress of medicine and surgery have yet in store; whatever the benefits to result from those, let us not fail to recognize what has been accomplished through their judicious adoption and intelligent application by the physicians and surgeons of our medical and surgical staff, who, throughout its existence, with constant zeal and indiscriminating skill, have given their time and talents to the patients in St. Luke's.

"I do not think sufficient recognition has been made of what the medical men of New York have always done, and every day in every week continue to do, for the sick poor in our hospitals, and rejoice in this opportunity for making such recognition, as well as for presenting to the Medical Board of St. Luke's my acknowledgement that to them is due in largest measure both the credit and the thanks for the distinguished position she holds to-day among the hospitals of the country."

WE learn that Dr. Obetz has been forced to resign from his State Society, for daring to promulgate his honest convictions. This is as we might expect, and he will be further abused and made to suffer "for conscience sake." His proposition will before very long be acceptable and accomplished, but we fear not just yet. Let us take courage and push on in the noble cause.

SPRAINED ANKLE.—Almost every one has had more or less experience in the twist of the ankle which strains the tendons and sometimes lacerate the capsular ligament. These sprains are often more tedious than an actual fracture, and under the old treatment required a longer time to remedy. Some years ago Mr. Edward Cotterell, of the University College Hospital, London, published a little work giving the outline of a new method of treatment which he had found highly successful. Recently, Dr. V. P. Gibney, of the New York Polyclinic, has put the method in practice in his hospital and private practice with such marked success that his experience, published in the journal of that institution, has been adopted by many others. The foot, the ankle and the lower third of the leg are strapped with adhesive rubber plaster, the foot being well raised, about half an inch in width. The first strap was carried over the outer side of the foot from near the base of the little toe, each successive strip overlapping the other until the lower third of the limb was included. Over all was placed a cheese cloth bandage. The patient was then told to put on stockings and shoes and walk, and was directed to walk every day. The recovery in each case was without relapse, speedy and complete.

RHEUMATISM IN JAPAN.—It is a strange fact mentioned by Dr. Michaut, of Yokohama, that in spite of its being an essentially moist and rainy country, rheumatism in all its forms is a pathological rarity among the natives of Japan, while the Europeans residing there are almost all rheumatic. This immunity, the writer is inclined to attribute to the use of very hot baths, which is universal in Japan. The temperature of the Japanese baths is never less than 42° C., and he has been assured that they can endure a bath at the temperature of 50° C. A Japanese bathes once, sometimes twice a day. His skin is more active than that of Europeans, is thicker and much less sensitive to cold and to external irritations.

IN an editorial in the *Journal of the American Medical Association* some time ago, concerning the "abuse of the foot" the writer deplores the character of our foot-wear, and graphically describes the injuries resulting therefrom. Then follows as a consequence of the vascalaregation of the bones, a melting together of the pent surfaces, etc. The method which prevails in foot-wear is responsible for *this fearful condition*. As a remedy he urges that:

"Children should not wear our box shoes, but a flexible, loose moccasin—like slipper with no heel."

"In the fierce struggle for existence which is now upon our race, survival will depend on the application of intelligent attention to little matters."

This editorial suggests that other dangers besides those of the untamed and omnipresent bacilli threaten us with extinction.

"The constriction of the ankle and instep should be avoided because it results in interference with the nutrition of the foot."

MEDICAL RE-UNION AT ANN ARBOR.

To the Editors of the NEW YORK MEDICAL TIMES:

The plan proposed by Professor Obetz, for a re-organization of the two medical colleges of the Michigan University, so that they shall virtually be merged into a single department, has provoked as was to be expected, a lively opposition on the part of many Homœopathists in the State, and their influence with the Legislature will probably be sufficient, for the present, to secure its defeat. The *Medical Century* raises the cry of "disloyalty" and "treason" against the originator of the scheme, and calls loudly for his official decapitation, but advances only one argument to sustain its judgment. This is based upon Dr. Obetz's "positive position" that "only those who desire to trade upon a name" are in favor of maintaining separate schools and organizations. "To this assertion," says the editor, "every honorable Homœopath will take umbrage. . . . If it is honorable to prescribe according to the law of similars, it is equally honorable to announce that one so prescribes." Undoubtedly it is, but the question here arises, do the majority of the so-called Homœopathic profession in this country, in their actual daily practice, adhere to this law of similars with a decent degree of fidelity? When they announce themselves as Homœopaths, they intend the public to believe, (and the public *does* believe) that they practice Homœopathy exactly as it used to be practised a generation ago by the "pioneers" whose memory they profess to venerate. What are the facts of the case? I will let the *Homœopathic Physician* answer:

"There are between twelve and fourteen thousand physicians in this country who claim to be Homœopathists, and if a vote were to be taken upon the subject to-day as to whether *similia* is a universal law and should be strictly adhered to in all medical cases, at least sixty per cent. would vote against it; that there is no such a universal law, since Homœopathy is only a system of medicine, and not the only true system of cure; that *similia similibus curantur* should be written *similia similibus curenter*, (Hughes and numerous others), and *similia* would answer in some cases, but in others we claim the right to the armamentarium of all the schools of practice; and the physician who would not do so should not be allowed to practice, and be put down as a bigoted Hahnemaniac (the last pronounced with a slur). Now why is this the case? If you should speak to them about 'The Organon,' many of them would not know what you meant; they would very likely ask: 'Is it some new medicine, or is it something good to eat? And who has gotten it up, or what is it made of? I have never heard of it before.' Were you to tell them that it was Hahnemann's promulgation of the law of Homœopathy, and that no one could practice Homœopathy until he had made himself familiar with the law (the teachings of 'The Organon'), and that it can be obtained nowhere else but from 'The Organon,' they will laugh in your face and tell you that you are one of those new fangled Hahnemaniacs, and that they have no use for it; that 'Hahnemann was an old fogy; that he may have done well enough in his day, but we are progressionists and have long since outgrown him; that we have learned a great many things that Hahnemann never knew, or ever

thought of. No, I do not think I want it.' Should this appear strange when 'The Organon' has not been taught in any of the colleges—that it has been left out of their curriculum? Could anything else be expected, when many of the professors of these misnamed colleges have never perused a page of 'The Organon' in their lives? Then how could they teach it (the law) to their students? Is there not something wrong here? Shall we allow it to continue?"

Dr. Beckwith's very emphatic declaration to the same effect some years ago will no doubt be remembered by many of your readers. So much as to the Homœopathic practice of to-day. Now what with regard to the teachings in Homœpathic colleges generally and the Michigan University in particular? The *Medical Visitor* (a Homœopathic journal) talks as follows anent the Gould prize for a popular exposé of Homœopathy;

"It would be very easy for a Homœopath to win that prize if the Homœopathic school is to be taken as a unit. When an impartial observer looks about him, it is not surprising that such an offer as the foregoing should be made. In one college the professor of dermatology uses the same local applications that are recommended by Fox and others, and Homœopathic treatment is a secondary affair. In another, the professor of practice tells his students intermittent fever cannot be cured without quinine in ten to fifteen grain doses. In a third, the class are told, that erysipelas cannot be cured with Homœopathic remedies. In a fourth, the teaching is so foreign to the laws of Homœpathy that many of the graduates have gone bag and baggage over to the Allopathic school. In the fifth, one of the professors of theory and practice cordially endorses a man, who does not even claim to be a physician, as skilled in the treatment of skin diseases, and his name is attached to the quack's circulars, which are widely circulated throughout the city. In the sixth—but why multiply examples of the degeneracy of the Homœopathic colleges with the ridiculous pretentions of the professors, Homœopathic in name only, and eclectic, or worse, in teaching. Both east and west, good men, true Homœopaths, have resigned from the colleges because reform in these institutions was impossible. Remonstrances were of no avail and the mongrels held the balance of power. The rank and file cast aside, temporarily at least, the Homœopathic law for the gold cure, for Christian science, for Kochism, and for every new medicine and new fad that shows its head. Hahnemann was too much of an old fogy for them and they want a reformed Homœopathy."

One of the most distinguished and forcible writers in the new school—himself formerly a professor in the Homœopathic College at Ann Arbor, where he has ever since resided, writes concerning that institution: "Both the President and the Board of Regents are recreant to the trust reposed in them by the people of Michigan." And he "solemnly warns the earnest student from seeking an education in Homœopathy there; it is not to be gotten there." This is from the *Medical Advance* for November, 1892. The same journal (February, 1893) comments as follows upon an editorial in the *N. A. Journal of Homœopathy* attacking the Hering College of Chicago:

"Professors who live in glass houses should not throw stones at 'sickly schools.' It is unbecoming a dignified organ of a dignified school. If the author of the 'new colleges' will read the paper of the Professor of Obstretrics in the New York College, published in September issue of the *Homœopathic Journal of Obstetrics*, and tell us in what particular it differs from any Allopathic teaching on obstretric antisepsis, or point out a single line pertaining to Homœopathy, he will confer a favor on a long suffering Homœopathic profession."

"Here is another *raison d'etre* found in the *Medical Student*, November, 1892, the students' organ of the Boston University school. The students are evidently in doubt as to what is and what is not Homœopathic teaching, but for this they are not to blame. Says Professor J. Heber Smith: 'If you have a case of genuine malaria give quinine, two to four grains per day, in addition to your Homœopathically selected remedy. Either alone will be disappointing, but the combination is a grand success.'

"This sage prescription was treasured by the student, we presume, because when we have cured a case of 'genuine malaria,' it is so satisfactory to know *what remedy* did it.

"A further *raison d'etre* is what is taught from the Chair of Practice in the pioneer Homœopathic college of our school, where Hering, Lippe, Guernsey, Raue, Frost and Williamson formerly did such splendid work.

For typhoid: Baptisia early, regardless of symptoms.

For hemorrhage, if alarming, morphine one-eighth to one-fourth gr. hypodermically.

Chronic gastric catarrh: pure carbolic acid in drop doses:

Gastric ulcer: 10 to 15 grains tannin in a little water; but my favorite is one eighth or one-fourth gr. morphine hypodermically.

For follicular tonsilitis, use the galvanic cautery.

From the chair of Ophthalmology:

Catarrhal conjunctivitis: Hydr. Iod. Flav. Ung. Petr.

Granular conjunctivitis: Atrop. 4 to 8 grs. in 1 oz. water; apply locally.

Keratitis Kali Iod. 5 grs. three times daily.

"In the University of Michigan, into which Homœopathy was admitted on equal terms with Allopathy after a bitter struggle of twenty years' duration, a proposition was recently made by the Dean of the Homœopathic department for a union of the schools. The Detroit *Times* says:

'The Allopathic professors believed the union proposed by Dr. Obetz to be an indication that the Homœopathic department was nearing its end. They did not believe that a union of the two departments was possible unless the Homœopaths renounced their principles. They point to the fact, as they claim, that the Homœopathic hospital has never been full.'

"Probably the Dean was unable to find sufficient difference in the therapeutics to warrant a longer continuance as a separate school.

"When our Homœopathic colleges sow the wind they must expect sooner or later to reap the whirlwind. Water never rises higher than the fountain and the fountain, in our school at least, is the medical college. Here is the inevitable and legitimate result of such college work cut from the advertisement of one of our pharmacies. It is unnecessary to add that a pharmacy does not expend money for time and drugs simply as an amusement. If there were no demand for these kind of mixtures by graduates of our so called well "equipped" Homœopathic colleges they would not be made."

Here follows a list of tablets and their uses, largely employed by Homœopathic physicians, in which two or more remedies are combined.

"Students who are not grounded in the principles of 'The Organon,' who are taught to treat disease instead of the patient, who see this kind of work done in the college, clinic and hospital practice will first palliate, then alternate, then resort to mixed remedies, and finally to crude Allopathy. We say crude Allopathy, for the more advanced Allopathists are now using the single remedy."

Charges like these have been repeated again and again in the journals devoted to "pure" Homœopathy, and I am not aware that a single attempt has been made to refute them. They disclose a state of things which not merely explains and justifies the movement initiated by Prof. Obetz, but makes that movement as necessary and inevitable as the results of gravitation in the physical world. All the signs of the times indicate that these persistent attempts on the part of interested individuals and corporations to maintain between the two sections of our profession a line of demarcation which the progress of science and the growth of liberal sentiment are constantly tending to obliterate, cannot much longer be successful. On all sides—by layman and practitioner alike—the question lately propounded in the *American Lancet*, is beginning to be seriously asked: "Is there a better standard by which to judge medical men than education, morality and merit? Should not those who attain this standard be united in one fold?"

GEO. L. FREEMAN.

REPLY TO "A CORRECTION."

DR. GEORGE L. FREEMAN,

Dear Sir—You have, unconsciously no doubt, subjected me to a great disappointment. When my eye fell upon the caption words of your "correction," a thrill ran from retinal rods to cortex, at the pleasing promise that a tilt upon nervous matter was at hand. I was hungry for a rousing, pungent criticism of my humble efforts to let in a little light upon this vast subject, and its manifold mysteries, by the feeble taper of my imperfect argument. Judge then my discomfortiture when I found that after being gently pelted, as in Roman Carnival time, with the "confetti" of the sweet words "your equally instructive and entertaining series of articles on 'Nervous Matter,'" for which please accept thanks, there was only the so-called "correction" of a mere difference of opinion—delivered 'tis true, with somewhat of *ex cathedra* authority—upon the proper rendition of a Latin quotation. Here indeed was a "most lame and impotent conclusion," and suggestive of that other classic apothegm "Montes parturiunt" etc. It pained me to see such waste of intellectual ammunition upon "nugæ," while the hidden powers of the great nerve forces of man's organization still challenge exploration and still await the genius of incisive science to reveal them to men's eyes. Perhaps it may be deemed rash and importunate in me to invite criticism. It may be that unlike Achilles, whose Stygian dip rendered him invulnerable except at heel, and which your wide classic lore will doubtless recall, I am all heel, and vulnerable everywhere. But there is a panoply impenetrable to the shafts of the world's disfavor, and with it, like the "Royal Dane," I am armed and in "complete steel." It is the armor of love for scientific truth wherever and whenever it can be wrested from obscurity and placed where all can see. And now, anent the quotation whose so-called mal-interpretation seems to have stirred your classic bile, I will quote it in extenso: "Qui recte vivendi prorogat horam, rusticus expectat dum defluat amnis, at ille labitur et labetur in omne volubilis ævum." At the same time I will also quote from my article, and we will then be able the better to see where the "rather surprising misconception" may be found. The quotation runs thus: "Let us then be humble, and not be content to say we don't know, but let us rather work faithfully to still enlarge the ever growing volume of knowledge, advancing and widening as time goes on. We are here reminded of that most exquisite interpretation by the Latin poet, of the immortal destiny of the human soul in its celestial home. In likening the soul to a river winding its way to the sea he said: 'Labitur et labetur in omne volubilis ævum.' It glides on and will glide on through all the endless ages of eternity." You give Anthon's interpretation thus: "He who neglects the proper season for self-improvement, and keeps waiting for some more favorable opportunity to arrive, waits in vain, like the rustic on the river's bank, who foolishly thought that the stream would flow by and become exhausted, for time, like that stream, glides along in rapid course, and the hour which has once passed will never return." With all due respect to Dr. Charles Anthon, his rendition of the thought of the poet would be much more applicable to that which I have embodied in my own language—"Let us rather work faithfully to still enlarge the ever growing volume of knowledge, advancing and widening as time goes on;" etc. But the poet said "Qui *recte* vivendi prorogat horam," he who puts off the hour, not for self-improvement—there is not a word in the text that directly or indirectly indicates that mental improvement was in his mind—but "*recte vivendi*," living *rightly*, leading a *moral life*, waits upon time, as the rustic waits upon the flowing river, etc. As that *moral* life presupposes a destiny of happiness, as a reward for its well-doing, while in corporeal life, so will the future destiny and existence of the soul be commensurate with eternity itself, and hence the expression "omne volubilis ævum." I gave the quotation from memory, not being absolutely certain that it was given with critical correctness, but I have since taken your advice, for which, thanks again, and taken down my Horace, and find that my quotation was not only correct, but morover, upon reading the whole context, am more thoroughly convinced than ever that the thought in the mind of the poet had reference more to the immortal destiny of the soul than to secular self-improvement, and that the words "labitur et labetur in omne volubilis ævum," referred more to the permanency of its future destiny than to any temporal advancement. The epistle from which the quotation is taken is, as you are no doubt aware, addressed to his young friend "Lollius," a scion of a noble Roman family, and son of M. Lollius Palicanus, who was consul with Quintus Æmilius Lepidus, and is devoted to the inculcation of mental and moral improvement and enlargement. The mind of the poet was at the time strongly impressed with the lessons of wisdom and virtue, and also with the vivid delineation of the misery and wretchedness that are the natural heritage of vice, as portrayed by Homer, to whose writings he had recently been devoting himself during his retirement at his sequestered villa, away from the distractions and temptations of Rome. I will offer another quotation from the epistle: "Nam cur, si quid est animum, differs curandi tempus in annum. Dimidium facti, qui cœpit habet, sapere aude, incipe." Why then, if there is aught that harasses the mind, put off its cure for a year?

That man who *begins* the pursuit of an object in life has already overcome one-half of the difficulties that intercept its acquisition. Dare to be wise. Begin. Then follows the rest of the quotation: "Qui recte vivendi, prorogat horam," etc. Again you say, "let me remind you moreover that no lofty or consolatory anticipations of a future state were cherished by the heathen bard; death to him was merely the end of all enjoyment." In answer to this, I cannot do better than to refer you to the following opinion of the author whom you quote with apparently so much favor and confidence.

In Milman's sketch of the life of Horace, which doubtless Anthon approved, or he would have not incorporated it with his book, he says, "Yet Horace, if we pursue the subject of his religion, is not yet without his apprehensions, his misgivings, his yearnings after more serious things. The careless and epicurean scorner of Divine worship is startled from his thoughtless apathy by thunder from a clear sky. He is seized with a sudden access of respect for all ruling Providence. As in the romantic adventure of his youth, so in the later accidents of life, his escape from perils by land and sea, from the falling of a tree, he speaks with gratitude, apparently not insincere, of the Divine protection. He is never more true and striking than in his observations upon the uncertainty of life, the dark and certain approaches of death."

> "Nec quidquam tibi prodest
> Ærias tentasse domos, animoque rotundum
> Per currisse polum, morituro."

The word heathen is generic, and susceptible of more than one interpretation. Since the dawn of the Christian era it has had but one signification, and represents paganism, infidelity, barbarism and all that is meant by godlessness. But pagan, infidel and barbarian cherished the worship of their divinities with as much zeal and religious fervor as does the Christian. But there is one word in the religious sentiment of all peoples, and that word is soul. The Latin speaks it in "anima," the Greek in *ψυχε*. The Egyptian typifies it in the winged globe, the emblem of immortality. It has come down from the Pharaohs, the Ptolemies and onward through the Rhamses, etc., and when the Egyptian prostrated himself before Isis and Osiris, Phrah and Thoth, and his innumerable gods and tutelar deities, it was but the recognition of a supernal Power. Even the worship of the scarabæus, a superstition, if you like, was but symbolic and emblematic of an instinctive relation between the creature and the Creator, and a fearing sense of responsibility to

some dread Power when the earth shall have closed over his mortal part. It is a misnomer to apply the word heathen to one of whom it is written, "The best evidence indeed of the claims of the poet as a moral philosopher, as a practical observer, and sure interpreter of human nature in its social state are the countless quotations from his works, which are become universal moral axioms." So you see, my dear doctor, that your heathen bard, as you, pardon me, so infelicitously styled him, is even by your favored critic accredited with "secret misgivings" and "apprehensions" of the ultimate destiny of his immortal soul, and was very far from considering "death as the end of all enjoyment." 'Tis true that his muse often attuned her song to life's pleasures, as witness his Carmen to Leuconoe, Carmen 11th, Liber I., in which he exhorts her to seize upon the joys that offer, as they are fleeting and evanescent.

"Ad Leucouoen"

"Tu ne quesiris, scire nefas.
Quem mihi, quem tibi finem
Di dederiut, Leucouœ,
Nec Babylonios tentaris numeros
Utmelius, quidquid erit pati,
Seu plures hiemes, seu tribuit Jupiter ultimam
Dum loquimur, fugerit invida ætas,
Carpe diem, quam minimum Credula postero."

'Tis wicked, therefore seek not, Leuconoe,
To know the span of existence which
The Gods shall give to me and you.
Consult not the Chaldean tables,*
'Tis better to accept whatever may come
Whether Jove shall give us many winters
Or this shall be the last—even while we speak,
Envious time flies—enjoy the present,
Trust little to the future.

Our respective versions of the thought that stimulated the poet's verse are so irreconcilably variant, that like two parallel lines, we may continue harmoniously side by side, but never meet, at least upon the question now at issue. The rendition of a quotation is always a "varium et mutabile nomen," and one should be somewhat cautious in proposing one's rendition inexorably. If you be the "arbiter elegantarium" of this journal, and again contemplate a "correction," I would suggest that you look well to your mètier. "Let him that thinketh he standeth, take heed lest he fall." "Look at this picture, and on this," said Hamlet, and so I invite you, dear doctor, to scan the two I place before you. You stand with the fool upon one bank of the river, impatiently awaiting the ebb and flow of the tide; while I upon the other, calmly and serenely contemplate man's immortality and its permanence in the endless cycles of eternity. Of the two pictures I leave you to decide which is the nobler? I quote the closing words of your "correction," "I therefore strongly recommend you to renew your acquaintance with him." —the poet. To this allow me to suggest that your classic investigations and reminiscences should take a direction retro-Anthonem, and I think you will find that the version I have given of the line "Labitur et labetur in omne volubilis ævum," will be echoed in the dim past long before the primordial plasma that generated an Anthon had exuded from its procreative cell, or as yet had any existence in the future possibilities of evolution.

JAMES A. CARMICHAEL.

CITRIC ACID *vs.* CHOLERA GERMS.—Experiments made by J. DeChristmas are said to demonstrate that a weak solution of citric acid will destroy the cholera germ. It is said that a solution of 8 in 10,000 always kills them. The mixture is only slightly acid to the taste, and is harmless to the tissues with which it comes in contact. The public should be informed on this subject.

* This referred to the astrologers or fortune-tellers, who infested Rome at that time.

BIBLIOGRAPHICAL.

THE SURGERY AND SURGICAL ANATOMY OF THE EAR, by Albert H. Tuttle, is one of the Physicians' Leisure Library Series, George S. Davis, publisher, Detroit. There are twenty-three full page engravings of more than usual excellence, illustrating clearly the entire anatomy of the ear and the steps of each operation.

VERDI'S SPECIAL DIAGNOSIS AND HOMŒOPATHIC TREATMENT of disease for popular use, including such functional disturbances as are peculiar to girls and to maternity. By Tullio De Suzzara-Verdi, M. D. Philadelphia: Boericke & Tabel, 1893, pp. 579, 8vo.

In this work the author has presented a system of general domestic practice, which will meet the demands of the class to which it is addressed.

ELEMENTS OF HUMAN PHYSIOLOGY. By Ernest H. Starling, M. D. Lond., M. R. C. P. Joint lecturer in Physiology at Guy's Hospital, London; member of Physiological Society, etc. With One Hundred Illustrations. Philadelphia: P. Blakiston, Son & Co. 1892, pp. 437. 12mo.

The author has presented here the main facts in physiology, in a clear and concise manner, as required by students of medicine. The chapter on the "fate of food stuffs in the organism—metabolism," is well worth the price of the book. The subject of course is brought to date and is in readable English.

TEXT-BOOK OF OPHTHALMOLOGY. By Dr. Ernest Fuchs, Professor of Ophthalmology in the University of Vienna. Authorized translation from the second enlarged and improved German edition. By A. Duane, M. D., Assistant Surgeon Ophthalmic and Aural Institute, New York. With numerous illustrations. New York, D. Appleton & Co., 1892, pp. 788, 8vo.

The translator truly says in his preface that no apology need be offered for presenting to American readers, the translation of a book so well and so favorably known as Prof. Fuch's. His work is too well known to specialists in this department to require more than an announcement of the fact. The translator deserves great credit for his part also.

DISEASES OF THE NOSE AND THROAT. A text-book for students and practitioners. By Horace F. Ivins, M. D., lecturer on laryngology and otology in the Hahnemann Medical College of Philadelphia; laryngological editor of the *Journal of Ophthamology, Othology, and Laryngology*, etc. With one hundred and twenty-nine illustrations including eighteen colored figures. Philadelphia: The F. A. Davis Co., 1893, pp. 507., 8vo.

This book is intended for the advanced medical student and for the general practitioner, and the author hopes the specialist will find it of value. The text will be found quite complete and exhaustive, at the same time as concise and practical as the volume of matter at hand will admit of. The author may be congratulated upon the character of his effort under the circumstances, and no doubt. the work will meet a large demand.

MANUAL OF CHEMISTRY. A guide to lectures and laboratory work for beginners in chemistry. A text-book specially adapted for students of pharmacy and medicine. By W. Simon, Ph. D., M. D., Professor of Chemistry and Toxicology in the College of Physicians and Surgeons; Professor of Chemistry and Analytical Chemistry in the Maryland College of Pharmacy, Baltimore, Md. Third edition, thoroughly revised, with forty-four illustrations and seven colored plates, representing fifty-six chemical reactions. Philadelphia: Lea Brothers & Co., 1891, pp. 480, 8vo.

The title of this work well describes its scope, and the fact that a third edition has been called for indicates that it has been found serviceable.

The text is exhaustive of the subject, but at the same time concise and practical. The plates showing chemical reactions will be found very convenient in analytic work.

INTERNATIONAL CLINICS.—The first quarterly volume of the third (1893) Series of International Clinics, published by J. B. Lippincott & Co., Philadelphia, is full of interesting matter, given in that clear and concise style so easily remembered. Dr. Fowler has a short but instructive lecture on digestion and some of its disorders; Dr. George F. Sinclair, of the insane hospital at Halifax, a very thoughtful and suggestive article on epileptic insanity, which will repay close study; Dr. Deveraux, of the Jefferson Medical College, a graphic picture of multiple sclerosis, traumatic tremor and railway spine; Dr. William H. Porter, of the New York Post-Graduate, a well considered article on Bright's disease. The three hundred and fifty six pages of the volume contain over fifty clinical lectures on different departments of medicine and surgery, every one of which has the most advanced ideas upon the subjects treated.

PSYCHOPATHIA SEXUALIS, WITH ESPECIAL REFERENCE TO CONTRARY SEXUAL INSTINCT. A Medico-Legal Study. By Dr. R. von Krafft-Ebing, Professor of Psychiatry and Neurology, University of Vienna. Authorized translation of the seventh, enlarged and revised German edition. By Charles Gilbert Chaddock, M. D., Professor of Nervous and Mental Diseases, Marion-Sims College of Medicine, St. Louis; Fellow of the Chicago Academy of Medicine; Corresponding Member of the Detroit Academy of Medicine; Associate Member of the American Medico-Psychological Association, etc. In one Royal Octavo volume, 436 pages, Extra Cloth, $3.00 net; Sheep, $4.00 net. Sold only by Subscription. Philadelphia: The F. A. Davis Company, Publishers, 1914 and 1916 Cherry street.

It is the purpose of this treatise to give a description of the pathological manifestations of the sexual life and an attempt to refer them to their underlying conditions.

The work has reached seven editions, thus showing that it has met a real demand.

The text is written strictly from a scientific standpoint by a master-hand of great experience. The book cannot fail to be of service to any practical physician.

Dr. Emory Lanphear of Kansas City, who is said to have greater experience in this line than any other American surgeon, will lecture at the Chicago Post-Graduate Medical School this summer on the subject of "Some Achievements in Intra Cranial Surgery.

The U. S. Medical P. P. Alliance, will hold its third annual meeting at 28 Iowa Circle, Washington, D. C., on June 14, 1893 at 7 P. M. Important matters will be discussed. All physicians are invited to attend. For further information address Dr. J. H. DeWolf, Baltimore, Md.

The *Medical Bulletin*, edited by Dr. Kaufmann, Masonic Temple, Chicago, has sent us a most polite invitation to make its headquarters ours, when in that city, for which we return our cordial thanks. Our friends will find the TIMES always on file there, and we may be there ourselves.

The *Bulletin* is a lively, progressive weekly, which gives all the news in a condensed form, and our readers will make no mistake in subscribing for it.

For the prevention or cure of writer's cramp a German paper advocates the following method of using the pen: The holder is placed between the index and middle fingers, and rests against the centres of the first and second phalanges of the bent middle finger. It is supported in this position by the index finger slightly curving round it and by the thumb. The holder points straight outward, and makes an angle of thirty degrees to thirty-five degrees with the paper. The fourth and fifth fingers form the support, and the movements take place at the brachio-carpal articulation.

TRANSLATIONS, GLEANINGS, Etc.

Dr. Jacoby, in the *N. Y. Medical Journal*, maintains that neuroses are often precursors of organic disease; or, to put it more strongly, that organic disease is sometimes the direct outcome of a functional disorder. So, in all cases of motor neuroses of the heart, what to-day is looked upon as a pure neurosis may remain so for a period of time and then get well, or may develop into organic disease. As long as repair outbalances waste, the disease remains functional, and when waste exceeds repair, then we have lesions and organic disease.

Itching of Central Origin, or Brain Itch.—Bremer (*Review of Insanity and Nervous Diseases*, December, 1892,) arguing from Edinger's case of paralysis of the right arm and leg, accompanied by athetosis and by excruciating pain at all times, in whom was found a softened spot in the external nucleus of the left thalamus opticus, accepts the theory that there may be pain of central origin. For how else, he says, will you explain the pain of the hypochondriac or the hysterical, or that of hypnotic suggestion? The epileptic aura, which may be an itching instead of a pain, he explains as a projection of a cortical irritation on a corresponding area of the skin. He refers to the well-known fact that certain persons cannot hear vermin spoken of without being afflicted with a sensation of itching, which, he says, is brought about by an association process in the hemispheres. He says he has often seen pruritus accompany melancholia, and reports two cases in which it preceded the mental trouble. The pruritus that is so frequently met with in hysteria and neurasthenia is, in his opinion, undoubtedly, a brain itch, and not a peripheral one. He makes a strong plea against the custom of gynecologists of treating pruritus about the vaginal orifice in neurasthenic women. For treatment he recommends combining bromide (ten to twelve grains) and Cannabis Ind. ext. (½ gr.), three times daily.

Dr. Frederick calls attention in the *Buffalo Medical and Surgical Journal* to a matter too much overlooked by the physician, viz.: "the nervous disturbance of pregnancy due to digestive excretion," and says: "The mere existence of pregnancy is too often considered as the cause of the nervous disturbances associated with it. An unimpregnated woman may suffer from functional nervous disorders and have the causes correctly ascertained. Why a pregnant woman should not be accorded the same consideration, I know not. The text-books on obstetrics usually devote a space to the nervous disorders of pregnancy. This, naturally, presupposes that because a woman is pregnant she will have some neurotic troubles. It must be admitted that pregnancy, and the great nutritive and nervous activity coincident with it, render the woman more susceptible to such exciting causes as would manifest themselves in nervous outbreaks. Because of the attitude of obstetric writers, the inexperienced may believe that these ailments will continue to the end of gestation and will cease not a moment earlier. This is also a popular belief, and, in consequence, many women fail to consult their physicians for serious, yes, dangerous, conditions. Many women I have seen who have borne up during a weary nine months with troubles which could have been promptly relieved had they been given attention. Defective elimination of tissue waste poisons the nervous system. The maternal excretory organs in pregnancy must eliminate the combined waste of mother and child. Considering this and the more irritable state of the nervous apparatus in pregnancy, it is no wonder that slight defects in excretion make pronounced nervous effects."

If the skin is dry, give a warm bath, keep the bowels open, and see that the urine is of normal specific gravity. If less than normal, promote the excretion of water by saline preparations.

Incomplete Urinary Paraplegia of the Lower Limbs, Accompanied by Locomotor Pseudo-Ataxia, and Paralysis of the Sphincter of the Bladder, Consecutive Upon Phimosis, Completely Cured by an Operation.—Dr. Solon Chromatianos of Athens says: "There are two conditions of vesical paralysis, viz., the essential or primitive paralysis without apparent organic lesion, and the functional or reflex paralysis. Looking for the causes of the different forms of paralysis or paraplegia, we find that they may be divided into two groups. They are paralysis from an appreciable anatomical cause, and that form denominated functional paralysis, the anatomical sources of which there is no means of discovering. As anatomical causes may be reckoned all those diseases of the nervous system that are so located as to modify or interrupt the current of the mofor impulses. Inflammations, degeneracies, neoplasms, hemorrhage and serious disturbances of the circulation with their consequences—such as rambollissement, embolism and thrombosis occurring in the brain, medulla, and the peripheral nerves, may under certain conditions develop paralysis. Moreover mechanical lesions of the nervous system play a large part in the pathogenesis of paralysis, especially wounds and compressions of the brain, medulla and peripheral nerves, tumors, neoplasms and other neighboring diseases.

We know, too that certain toxic substances, by continuous action upon the organism, produce paralysis, among them lead, copper, arsenic and certain vegetable alkaloids. Many forms of paralysis follow acute diseases. These are are often observed as the sequelæ of diptheria, typhus, variola, dysentery and the acute exanthemata—chronic infections from syphilis and tuberculosis, sometimes become localized in the nervous system, and give rise to paralytic phenomena. Then there is paralysis resulting from cold from rheumatism, etc., and from the effects of cold, producing inflammatory alterations of the nervous substance. These are purely organic and not functional. But there is a very large group designated by the name of functional paralysis, viz. paralysis of psychic origin, fright, imagination, and those produced by hypnotic suggestion, hysteria, etc.

It remains to mention certain forms of paralysis whose etioligy has not been entirely elucidated. They show themselves in certain diseases of the internal organs, particularly the intestines, urinary and genital organs, and which may be designated as urinary paraplegia. If we turn to the historic origin of these forms of paralysis, we find that paralytic phenomena, supervening upon affections of the urinary organs, have not seriously engaged the attention of clinical observers for a very remote period. Before the publication of the excellent work of Leroy d'Etiolles in 1856 on "Paralysis or Paraplegia of the Lower Limbs," but little attention was given to these morbid conditions. Some sparse observations, little known and but little considered were the only evidences of interest upon this important subject. So much so, that Rayer wrote with reason that "the development of paralysis consecutive upon diseases of the urinary organs, is to-day a fact but little known by many physicians." In the case before us, there was phimosis, constricted, interfering with the free passage of the urine and causing paraplegic phenomena which have entirely disappeared since the cure of the urethral retraction without any other treatment. There is no doubt that the patient suffered incomplete urinary paraplegia, that can only be explained by the mysterious influence of the phimosis. This last fact fully demonstrates the real existence of urinary paraplegia and proves that phimosis may be the pathogenic cause of this paralysis which cannot be cured except by treatment of the primitive affection, consequently we have entirely abandoned the use of the application of the cautery along the vertebral column which a distinguished confrere had advised for this patient. Urinary paraplegia once admitted, it remains to explain it physiologically, by referring to the works of Brown-Sequard, Charcot, Jacond, Vulpian, Leyden, Voillemier, Le Dentu, etc. According to these authors, there are three principal hypotheses or theories that are susceptible of explaining urinary paraphlegia. 1. By reflex or sympathetic action. 2. By nervous exhaustion. 3. By an ascending neuritis which causes a myelitis of the medulla and upon which the paraplegic phenomena depend. Of these three theories we will admit the first as the most probable in the case now under consideration. Besides these there are three clinical forms of urinary paraplegia admitted by our distinguished professor and master, Charcot, to wit: Myelitis consequent upon affections of the urinary organs, in complete and false paraplegia.

Ataxic Phenomena.—After what has been said above upon the subject of vesical paralysis, and the paraplegic phenomena of the lower limbs, which we do not attribute to a central or peripheral organic lesion, but to a functional trouble of the spinal marrow, we are compelled to characterize them as ataxic phenomena which disappeared completely after the operation for phimosis, and of which the most striking was the patellar reflex. As it has been demonstrated that these phenomena were not due to an organic lesion of the posterior cords, but entirely to a functional disturbance of the medulla, such as is often seen in poisoning by excessive use of tobacco, by alcoholism, and that they were produced by reflex action, we will consider them as pseudo-ataxic.

It is well known that the reflex phenomena of the human body are manifested in the form of a reflected arc, whose centre is in the medulla, near the anterior cornua and the posterior branches, and whose extremities are composed of the sensitive fibres of the skin and tendons on the one part, and on the other of the motor fibres of the muscles, so that every irritation of the skin or tendons, is transmitted by the sensory fibres to the motor nerves of the anterior cornua, and excites them to muscular contraction. We know too that if the reflecting arc remains intact, the reflex phenomena are reflected physiologically. But if any portion of it is intercepted by a lesion of the peripheral nerves, or a paralysis of the muscles, or by an anæsthesia of the skin or a lesion of the anterior and posterior cord, the reflex phenomena are diminished or abolished. But it is not always necessary that this interruption of the reflecting arc should be due to a permanent organic affection. It may be very frequently owing to slight functional disturbance of the medulla, constituting local ischemia of the medulla—Brown-Sequard—or a partial diminution or abolition of its excitability—Jaccoud—such as we encounter in urinary paraplegia of the bladder, whose centre is found nearly in the same region of the spinal marrow as that of the reflex rotular phenomena. The above ataxic phenomena, thus explained, render our observation very important as respects their great rarity, or the complete absence of similar phenomena due to influence of affections of the genito-urinary organs. Among these ataxic phenomena we will consider as eminently reflex the symptoms of Argyle-Robertson, that our patient presented before the operation, and that, regarded as occurring only in locomotor ataxia and general paralysis, may equally, as he has demonstrated, appear in other affections by reflex action. The circle of affections in which this sign of reflex action is observed being greatly enlarged, it may be said that their pathognomonic signification progressively diminishes. Analogous disturbances have been observed in the contractility of the pupil, supervening by reflex action in sciatica, and by a vivid irritation, artificially produced, of the sciatic nerves, phimosis. To conclude, we will add a few words upon phimosis as a primitive cause of the phenomena which we have just related, with the view of showing the importance of an affection heretofore considered as insignificant and unimportant, and neglected by the majority of physicians, as also by those who are attacked by them. We have seen by what has preceded that this affection is capable in certain cases, of determining very grave and dangerous conditions. Phimosis may cause sterility, by reason of the difficulty of ejaculation, due either to the extreme narrowness of the preputial orifice, or the absence of a paralellism between this orifice and that of the meatus, or to the shortness of the frenum that usually exists in con-

genital phimosis. Daudirac, in his excellent thesis, has reported numerous examples of sterility due to congenital phimosis, and in one of these cases, sterility, which had continued for five years of conjugal union, disappeared after the operation. Althaut gives the development of phimosis as the cause of epilepsy, basing his opinion on the fact that of twenty-five epileptics in a London hospital eleven had phimosis. Unfortunately the operation of circumcision, which was practised in some of the cases, did not succeed in stopping the epileptic attacks, although it caused certain cerebral symptoms, viz, cephalalgia, vertigo, roaring in the ears, etc., to disappear. As far as we can judge, analogous phenomena to those we have cited, depending upon phimosis and disappearing entirely after the operation, without further treatment, have not been published heretofore. We feel authorized to offer the following aphorism: Every physician or surgeon who diagnosis phimosis in a patient, whether congenital or acquired, should advise him to submit to an operation as soon as possible, for it may be the ultimate cause of many future complications. J. A. C.

Abscess of the Nasal Septum.—Dr. Edward J. Bermingham, surgeon to the New York Throat and Nose Infirmary, (*Med. Age*, Feb 25th,) contributes an article on this subject, with the report of a very interesting case. A boy, eleven years of age, fell on the pavement, striking on his face. No symptoms beyond slight cutaneous abrasions were noticed for ten days, when the nostrils became occluded, and headache and frontal pain became almost unbearable. Four days later, when first seen, a tumor looking like an inflamed polypus presented through each nostril. Incision released a teaspoonful of thick pus and gave immediate relief to all symptoms. After treatment consisted of thorough cleansing several times daily with a mixture of one part of glycothymoline to three of water. Recovery followed promptly.

Danger From Contagious Diseases.—Discussion at the Academy of Medicine.—A Private Hospital Recommended.—Dr. H. M. Biggs read an interesting paper before the New York Academy of Medicine on "The Organization and Equipment of the Division of Disinfection, New York Health Department, and the Method of Work." Dr. Biggs' paper contained a detailed statement of the force and equipment of the division of disinfection, showing that extraordinary precautions were being taken to stamp out contagious diseases. There was a large attendance of the fellows of the academy, who displayed great interest in all that Dr. Biggs said. The paper contained a complete description of all the work of the department.

The latest edition to the equipment of the department is a new disinfecting wagon from Germany. In concluding his paper Dr. Biggs said that the description was not presented to the academy as that of an ideal system. It was, he said, within the power of physicians to give great aid to the department by co-operating with it. Dr. Abraham Jacobi referred to the dangers of crowded tenement houses in cases of contagious diseases, which had been referred to by Dr. Biggs. There was another danger that had been too long overlooked, Dr. Jacobi said:

"There is a class of houses," he said, "over which the Board of Health has no control whatever. I refer to the best and most commodious hotels. It is very seldom that a case of diphtheria or scarlet fever is removed from them. How the rooms are treated afterward I do not know. In a number of cases that have come within my own observation, I know that nothing was done. I have seen diphtheria in the same suite of rooms year after year, a different family being attacked each time. The Health Department seldom learns of these cases."

Dr. Jacobi also called attention to "a class of tenement houses called flats," which are full of carpets and disease. "These so-called flat-houses," said he, "require a little looking into too."

Dr. Bryant contrasted the equipment for disinfection in 1886 and 1887 with the excellent equipment described by Dr. Biggs.

"It is proper I think for me to say," Dr. Bryant continued, "that the establishment of this department has been a dream of mine for the last six years. In the fall of 1887, Mayor Hewitt gave $3,600 to the Health Department for disinfecting apparatus. The outcome of that is the apparatus Dr. Biggs has described."

Dr. Bryant then spoke of a question that has arisen in the treatment of contagious diseases. "Suppose," added Dr. Bryant, "that during the recent celebration some of our distinguished guests had been stricken down with diptheria or scarlet fever. There would have been no place for them but North Brother Island." They would, he said, get good treatment there, but there ought to be some place where strangers in the city could pay for treatment—in other words, a private hospital for contagious diseases. The establishment of such a hospital would be, he said, the next great advance in the treatment of contagious diseases in this city.

Drs. Brannan, Prudden, Sternberg and Robinson joined in the discussion. Dr. Robinson said that he had been struck by Dr. Bryant's remarks about the desirability of the establishment of a private hospital for contagious diseases. He added that during the recent Columbian celebration he attended an officer of the British Army from Halifax. The officer was staying in one of the large hotels. When Dr. Robinson examined him he found that he was suffering from diphtheria. All the hospitals of the city were closed against him. "The only thing I could do," said the Doctor, "was to send him to the Willard Parker Hospital, where he is now."

Dr. Jacobi resumed the discussion, saying that there ought to be a dozen Willard Parker Hospitals in different parts of the city. He urged physicians to induce their millionaire friends to establish a private diptheria hospital. It would be a great advance and would be a paying institution. The discussion was closed by Dr. Biggs.

Chronic Mercurial Poisoning in the Case of Surgeons.—Prof. Albert, of Vienna, had long been a sufferer from dyspeptic symptoms, for which he was unable to account until it occurred to him that they might be caused by the, sublimate solutions he was in the daily habit of using. On examining his urine he found it to contain a considerable quantity of mercury. This, taken in connection with the fact that he had lost within a short time three sound teeth, showed conclusively that he was slowly being poisoned by the drug. An eminent German surgeon recently died of nephritis arising from the same cause—the practice of sublimate antisepsis.

The Antidote for Arsenic.—Dr. Squibb recommends the following as a simple method of preparing hydrated oxide of iron, the antidote for arsenic, one of its chief advantages being that the ingredients are always easily obtained: Take of tinct. ferri chloridi, four ounces; aqua fort., four ounces; mix in a vessel of twelve ounces capacity, and add aqua ammon., one drachm. Shake well, pour it on a large wet muslin drainer, wring out the water and alcohol, and wash with fresh water. The stomach having been evacuated by emetics, while the antidote was being prepared, give four fluid ounces at once, to be followed by an emetic. Then give two ounces every ten minutes.

The Employment of Unburnt Lime for Purifying Water.—Professor Szpilman, of Lvow, (*Zdrowe*, Aug. 1891), successfully employed unburnt lime for removing from the water *crenothrix* and *cladothrix* which, as it is known, develop in springs, wells, basins, water-pipes, etc. These micro-organisms, forming greenish-brown tufts, which swim on the surface of the water or collect on the bottom render it unfit for drinking purposes, although in themselves harmless to man. Sometimes they clog or stop up the water-pipes. The author convinced himself that unburnt lime, in the quantity of 0.5 to 2 kilos of powder to 100 litres of water, or 20 to 40 per cent. of lime water, entirely destroys the micro-organisms in twenty-four hours. In Lvow, two springs were purified by this means.

Gelsemium in "Stage Fright."—Prof. Thompson, of St. Louis, had occasion, last March, to prescribe fluid extract of gelsemium in the dose of ten minims three times a day,

to students about to undergo examination. with the result that all feeling of uneasiness was abolished during the ordeal, and the students were able to tell just what they knew.

The Opium Habit in India.—There is a large section of the community which considers the opium traffic of India, which is sanctioned by the government, a disgrace to civilization, and is constantly urging the government to take steps to suppress the iniquity. To these enthusiasts Dr. Lawrie's report for the Medical Department of Derabad will not be acceptable reading. He is of opinion that in India at least, the opium habit is absolutely beneficial. It is a blessing rather than what it is constantly said to be, a curse, "An immense number of people in that country," he says, "owe their health to opium, and would not only fall an easy prey to disease, but would actually suffer in general health if they did not take it." Its action in averting fevers and other maladies incidental to a change of climate is conspicuous.

RETROSPECTIVE THERAPEUTICS.

By Alfred K. Hills, M. D.,
Fellow of the Academy of Medicine, New York.

Electric Tests for Urine.—Dr. Dawson Turner is strongly in favor of the electrical examination of urine, and considers it to be much more accurate and convenient in determinining the amount of urea than the ordinary mode. The method is to place the urine in a V-shaped tube, this being connected with a measuring bridge. The resistance in urines depends mainly on the presence of chlorides. He recently instanced a case of pernicious anæmia where the urine had a specific gravity of 1.017, 9.36 grains urea per ounce, on one day. and specific gravity 1.020. and 7.02 grains urea, on another. From this nothing definite could be deduced; whereas much could be leaaned when one was told that the specific resistance in the one case was 68 and in the other 51 ohms. He has determined the electrical resistances of various artificial fluids, and finds that a three per cent. solution of urea gives a specific resistance of 382.5 ohms, a two per cent. solution a resistance of 569.5 ohms; a two per cent solution of sodium chloride gives a specific resistance of 29.25 ohms, a one per cent. solution 59.5 ohms; a two per cent. solution of sodium chloride mixed with a 20 per cent. solution of grape sugar gives a specific resistance of 51 ohms. The specific resistance of distilled water is found to be infinite and that of ordinary spring water enormous.

Tropsin.—A new local anesthetic has recently been isolated by Giesel from the leaves of the small-leaved coca-plant of Java. Liebermann has proved that this base is benzoyl β-tropeine, which bears no relation to the cocaine group, but is chemically closely related to atropine. It is called "tropsin" for brevity. Professor Schweigger, of Berlin, after several months' experience with tropsin in eye surgery, reports that: (1) A three per cent. solution produces complete corneal anesthesia more rapidly than cocaine. Iridectomy could be done painlessly two minutes after putting three drops into the eye. (2) Anesthesia lasts from three to six minutes for each instillation, and no further prolongation can be produced save by a fresh dose. (3.) Mydriasis is absent, or but slight. (4.) Ischaemia never occurs, but sometimes there is a passing slight hyperemia, and a little smarting unless normal saline solution be used as a solvent. (5.) No injurious symptoms were ever observed. (6.) In removal of foreign bodies, tropsin seems, from its quicker action, far preferable to cocaine. Dr. Silex, assistant in the Polyclinic, has obtained similar results.

A New and Rapid Method for Removing the Uterus.—At a recent meeting of the Kansas City Academy of Medicine, Dr. Emory Lanphear presented a number of fibroid tumors, sarcomata, etc., removed by a new method of abdominal hysterectomy. The abdomen and vagina having been carefully sterilized, he makes an incision in the median line terminating as close to the pubes as possible, draws the uterus with one tube and ovary to one side and applies a clamp to the broad ligament; a strong ligature is passed a half inch from this, including the blood vessels, and tied; the intervening tissue is then cut with scissors. Upon the opposite side the same procedure is carried out. When done, the uterus (hitherto held down by the broad ligament) can be lifted up into the wound and separation from bladder and rectum easily accomplished; these incisions, before and behind, are carried into the vagina, when a Kelly's or Polk's clamp is introduced through the vagina as close as possible to the uterus, its points reaching the ligature already tied, in the broad ligament. As soon as properly applied it is closed and its fellow clamp inserted upon the side, when the uterus is quickly cut away with curved scissors. The pelvis is irrigated and the abdominal wound closed and drainage made through the vagina, as in cases of vaginal hysterectomy. The clamps are removed in forty-eight hours. The operation can be done in twenty-five to thirty minutes, being much easier than even vaginal hysterectomy with clamps. By the rapidity allowed and by the good drainage secured, Dr. Lanphear thinks this operation can be done almost as safely as an ovariotomy—certainly as safely as a vaginal hysterectomy—and it is much preferable to any method which leaves a pedicle or stump behind. He finds it is not necessary to unite the bladder to the rectum, as union takes place just as quickly without sutures as with them.—*Maryland Med. Journal.*

Poisoning With Pyrogallic Acid.—A man and his wife in Calcutta took two handfuls of pyrogallic acid, and the results were thus described by the man to Mr. U. Banerji, M. R. C. S.: "Sensation of drowsiness coming on at intervals, like that produced by opium. Nausea, but no vomiting; slight paroxysmal numbness about the extremities and face: slight palpitation and dryness of the throat; tongue moist and black; perspiration scanty." Mr. Banerji simply ordered twenty drops of dilute nitro-hydrochloric acid to be taken every two hours, and at night six ounces of olive oil to be taken in three equal doses. The patients were better next morning.

Removal of Steel From the Eye by an Electro-Magnet.—Dr. Samuel Theobald has reported at a meeting of the Clinical Society of Maryland, the case of a lad from whose eye a piece of steel was abstracted by means of an electro-magnet. The piece of steel was no larger than a pin's head, but being impelled with great force by a blow from a hammer penetrated into the vitreous chamber and was not visible. Eleven days after the accident the patient was operated on. An incision about four millimeters in length was made through the sclerotic between the external and inferior rectus muscles. A Hirschberg's electro-magnet was then employed. A single cell of the battery was used; this enabled the magnet to lift up a tack hammer. The point of the magnet was introduced well into the vitreous humor three or four times without success, but finally it brought out the little particle of steel.

Differentiation of the Typhoid Bacillus.—G. W. Fuller, State Bacteriologist, in his report to the Board of Health of Massachusetts, gives the results of his attempts to differentiate the bacillus of typhoid fever from other forms. A comparative study was systematically undertaken of more than thirty different species of bacteria, found in the water of the Merrimac River at Lawrence, side by side with cultures of the typhoid bacillus. In the first place it became necessary to make a thorough investigation of the latter, and after prolonged investigation, it was found possible to separate it from all the forms hitherto encountered in the river water. The potato test, generally used to differentiate the typhoid bacillus from the B. Coli Communis, was found to be of no diagnostic value; while apparently unfailing tests of the former are the non-coagulation of sterilized milk into which the organism has been introduced, the non-formation or very slight formation of acid under similar circumstances, and the turbidity produced, without evolution of gas, when the bacilli are grown in Smith's solution of glucose, peptone, and common salt.

MISCELLANY.

—Dr. Ortega gives the case of a dead fetus weighing twenty-two and one half pounds.

—Patients having albuminous urine are easily intoxicated by the hypodermic injection of cocaine.

—Very correct photographs have been taken of the interior of the bladder through the cystoscope.

—Dr. G. B. Griffith, formerly of the Ward's Island staff, has located at 2904 P Street, N. W. Washington.

—Dr. Depasse has moved, at a meeting of the Paris Municipal Council, that it be forbidden to expectorate in public carriages.

—Dr. Lawson Tait says: "I pay not the slightest regard to sterilization of any kind; the whole of such precautions are farcial."

—Dr. Paul Gibier claims to have obtained excellent results in epilepsy and paralysis from injection of prepared gray matter from the brain.

—A solution of alum of a strength of about twenty grains to an ounce of distilled water, applied at night, often gives immediate relief in chafing.

—Physicians can obtain a permit from the police which will give them the right of way in the streets of this city when answering calls for service.

—The *Indian Medical Record* says that the castor oil plant is a protection against musquitoes. A few leaves of the plant, placed in a room, will drive the little pests away.

—"Medical science has made such progress," said the doctor, "that it is almost impossible for anybody to be buried alive now." Then he wondered why everybody laughed.

—It is claimed excellent results are obtained in the treatment of chancroid by applying a mixture of five parts chloral hydrate, three of camphor and twenty-five of glycerine.

—To medical men going and coming from the International Medical Congress, the North German Lloyd, the Hamburg-American Packet Co., and the Compagnie Generale Transatlantique offer a reduction of 25 per cent.

—A German biologist says that the two sides of the face are never alike. In two out of five, the eyes are out of line; one eye is stronger than the other in seven persons out of ten, and the right ear is generally higher than the left.

—The method of treating snake-bite by injections of strychnine is to be submitted to exhaustive trial in India under the sanction and supervision of the government. The method has proved highly efficacious in many cases reported in Australia.

—Dr. Talbot Jones, of St. Paul, reports in the *Northwestern Lancet*, four cases of acute articular rheumatism, apparently due to prolonged immersion of the hands and forearms in an oxalic acid solution used in making bluing. The patients were employed in the same manufactory.

—A singular discovery was announced by Mr. Oswald Latter at the November meeting of the Entomological Society in London. It was that the imago of the moth known as dicranura vinula, secretes caustic potash, which it uses for penetrating the cocoon in which it is enclosed.

—Eucalyptol, the ethereal oil of eucalyptus has a peculiar action on the suppurative process. It paralyzes, as has been ascertained, the white corpuscles as soon as they have penetrated the blood vessel wall during inflammation. The process of tissue disintegration is hence checked by this drug.

—A bequest of Dr. Henry Roger, late of Paris, will put the French Academy of Medicine in possession of a fund yielding one hundred dollars per annum, to be devoted to the purposes of a five yearly prize. An award of $500 will be made for the best essay on the medical treatment of children.

—The record of the New York State Board of Health for February shows the highest death-rate in the State to be in West Troy, being 35 to 1,000 population; the lowest, West Joliet, 4; next, Cooperstown, 8; Waterloo, Walton, Middletown, Fishkill and Waverly ranging between 8 and 10.

—Visitor (picking up the baby.)—"So this is the baby, is it? Bless his little tootsie-wootsies! Kchee-e-e! Watch me poke um's ribs."

The Boston baby.—"Mother, will you kindly inform me whether the deplorable condition of this person is due to permanent dementia. or spasmodic and intermittent insanity?"

—A magnificent microscope, costing eight thousand seven hundred and fifty dollars, has been manufactured at Munich for the Chicago exhibition. It possesses a magnifying power of fourteen thousand diameters, and can be increased to sixteen thousand with the oil immersion. Electricity furnishes and regulates the source of light, which, placed in the focus of a parabolic aluminum reflector, reaches an intensity of eleven thousand candle-power.

—Dr. Lauder Brunton says "it was a magnificent stroke of genius on the part of Sir Andrew Clark when he informed Mr. Gladstone that he had one mouth and thirty-two teeth, and that for every mouthful of food he took every tooth should have a chance, so that he should take thirty-two bites to every mouthful. And if the patient has lost some of his teeth, he should allow two bites for every missing tooth, and even that will not do always if many teeth have gone."

—The University of Durham, England, has added two more degrees to its list, available for those who undertake the study of medicine. These degrees are to be known by the symbols B. Hy. and D. Hy., or Bachelor and Doctor in Hygiene, respectively. The course will not only partially cover the ground comprised in the D. P. H. and the diploma in public health granted by several of the other universities, but it will also include examination in such subjects as bacteriology, vital statistics and sanitary medicine.

—The most recent remedy for alcoholism in Russia is petroleum or parafin oil, to which the notice of the St. Petersburg medical authorities was called by an accident. It appears that a laboring man who had been drinking heavily for four days and nights entered, in a complete state of intoxication, a grocer's shop. Unnoticed by the shopkeeper, he staggered up to an open cask of petroleum and began drinking from it. It is related that the petroleum cured him of all the ill effects of overdrinking; the nausea, unsteadiness of gait, and headache disappeared as if by magic.

—Here is a good story of a doctor and a painter's wife. The doctor's name does not appear, but the painter was Meissonier. Mme. Meissonier sent for the family physician in a great hurry. He came, thinking some illness had overtaken the artist. But it was not the artist. It was only a lap-dog. He pocketed his pride and attended the patient, who soon recovered. At the end of the year the bill came in, but there was no item for attendance on a dog. Mme. Meissonier noticed the omission and told the doctor to charge. He would not charge; he said he could not charge; he was not a Vet. He was very glad to be kind to the dog, etc. The lady insisted. "Well," said the doctor, "the hinges of my garden gate are rusty; ask M. Meissonier to bring his brush and paint them for me."